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ECONOMIC LIFE OF NORTHERN INDIA

IN THE GUPTA PERIOD

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ECONOMIC LIFE O
NORTHERN INDI
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To

MY PRECEPTOR

ARTHUR LLEWELLYN BASHAM

PREFACE

Two valuable works of Dr. Atindra Nath Bose on the Socio-economic conditions of ancient India inspired me to undertake a work of similar nature on the Economic History of the Imperial Guptas. This monograph is a thorough study of the economic life of Gupta India as far as it can be reconstructed from the available sources. By utilizing material not hitherto studied in this connection, I believe that, I have thrown fresh light on several aspects of the subject.

This book is originally a thesis submitted for examination for the degree of Doctor of Philosophy and accepted at the University of London in 1956. One of its sections (i.e., Land Measurement) appears in the Journal of the Economic and Social History of the Orient, Leiden.

In the course of preparing this book I have received encouragement and help from several of my friends, colleagues, and learned authorities in allied subjects. First of all, I would like to express my sincere gratitude and respect to my learned teacher, Dr. A. L. Basham, without whose constant assistance, guidance and encouragement this work would not have been possible. I am also indebted to Drs. D. C. Sircar, J. N. Banerjee, B. C. Sen, G. C. Roychowdhury, R. S. Sharma and A. K. Narain who have given me encouragement and suggestions from time to time. I am grateful to Mr. D. C. Lau for taking great pains in reading with me my Chinese materials. I am also thankful to Dr. F. R. Allchin, Dr. A. H. Dani, Mr. A. Imam and Mr. S. Chakravorty for helping me in using archaeological materials and in the preparation of my plate and map. I must thank here Dr. Walker, Keeper of coins and Medals, British Museum, who kindly allowed me to test the weights of the Gupta coins and some of the gold coins of Vāsudeva, and in addition to this has himself tested some of them on my behalf. I am also grateful to Mr. S. K. Guha, who has helped me in taking the weights of these coins. I should mention here the name of Mrs. Lilabati Maji, whose affectionate encouragement is beyond appraisal. I am greatly indebted to my parents and Mrs. Maity for much encouragement. Finally, I am also thankful to Sri Rabindra Kumar Maity, M.A., B.T., for assisting me in proof correction and indexing.

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S. K. MAITY

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FOREWORD

Though many aspects of the history of early India have been studied very thoroughly, little work has been done on her economic life, and much of what has been done is annoyingly unsatisfactory. This is not so much due to any shortcomings on the part of the workers in the field as to the fact that the available sources are very inadequate, and thus there is no possibility of a detailed study of the themes which are the general stock-in-trade of the economic historian, such as the rise and fall of prices, the standards of living of different sections of the community, and the volume of trade in different commodities. It is most unfortunate, from our point of view, that the ancient Indian merchant did not record his day-to-day transactions on imperishable material, as did his Babylonian counterpart. Detailed records of early Indian economic activities are almost entirely lacking, and are probably lost beyond all hope of recovery. Thus in our study of the economic life of early India, we must in large measure be content with generalizations.

Nevertheless, some light can be thrown on the subject. The Arthaśāstra, the Jātakas, the Epics, and the Smṛitis give much general information, but most of this applies to India in the second half of the first millennium B.C. A large number of inscriptions, together with literary sources and the accounts of foreign travellers, tell us something about the economic life of the Dravidian South in the medieval period. All these sources have already been studied, and their inadequate data collected, but little has hitherto been written on economic conditions in Northern India in the first millennium A.D. This period saw the high water mark of Hindu culture, in the days of the great Gupta empire, when India seems to have achieved that perfect balance between a sincere and humane religious outlook and an urbane and often sensuous secular one which produced the works of Kālidāsa and the finest murals of Ajantā. This is indeed a period of which every Indian should be proud, when, while Rome was tottering to her fall under the blows of the barbarians, India enjoyed her happiest and most

creative period. This was an age when for at least a century, between the conquests of Samudra Gupta and the incursions of the Hūṇas, peace prevailed throughout the Gangetic Valley, when the Chinese pilgrim was amazed at the mildness of the imperial administration, when guilds of merchants endowed temples not only for purely religious motives, but also with the wish to make their cities more beautiful, when even little towns far from the great centres of culture possessed able poets, ready to turn out beautiful Sanskrit verses on demand, when city governors were proud to record the fact that they were on warm and friendly terms with the citizens whom they controlled, when smiths were capable of handling large masses of iron with a proficiency which no ancient or medieval craftsmen could imitate, when mighty emperors thought their skill in music as worthy of commemoration as their triumphs in battle, when sculptors and painters produced works of the utmost spirituality, and when sexual love was developed as a fine art.

Perhaps the Gupta period was an age when love, in all the senses of the word, was more widely diffused in India than at any other time in her history—love of the gods and love of one's fellow men, love of the things of the spirit and love of the things of sense, love of pomp and splendour and love of simplicity, love of nature, and love of life. In almost every relic of the Gupta age this love is apparent, in the simple but dignified script of Gupta inscriptions, in the fine design of Gupta coinage, in the words of the court poet Kālidāsa as in those of the provincial hack-writer Vatsabhaṭṭi and of the anonymous scribes who drafted in rather inaccurate Sanskrit the texts of the Damodarpur title-deeds, taking pains to mention the names of the members of the local council and those of the humble clerks who kept the records of land transactions. This was surely a period of high civilization in every sense, but especially in the truest sense of the term—an age of equilibrium, when human relations reached a degree of kindliness rare in the history of the world, and when the best minds of India expressed the fullness and goodness of life in imperishable art and literature.

It is clear that this great efflorescence of culture was supported by vigorous economic activity, but our sources for this subject are in many ways even less adequate than those for the economic life of the earlier period. Inscriptions give some evidence on taxation and the price of land, but there is no text for the Gupta period of the nature of the Arthaśāstra, and no popular stories of the type of the Jātakas, from which much information on economic life may be gathered, can be with

certainty attributed to our period. Nevertheless my friend and former student, Dr S. K. Maity, has succeeded in telling us much about the economics of Gupta India, thanks to a very painstaking search for scraps of information in every available source, and a carefully controlled use of his historical imagination and powers of inference. A thorough study of Gupta coins has produced evidence of some importance. Justinian, the emperor of far Byzantium, has given him information on India's foreign trade. Even the lexicon of Amarasiṃha and the astrological manuals of Varāhamihira have been made to yield some significant information, thanks to Dr Maity's initiative and patience. I believe that Dr Maity has tapped all possible sources in his search for knowledge of his subject, and has marshalled his material in such a way as to throw the maximum possible light on a very dark subject. If many of his conclusions are tentative, he is to be commended for not claiming undue certainty for theories based on such fragmentary material.

He is also to be commended, in my opinion, for an honest refusal to gild the lily. At the present time this is a standing temptation to the patriotic Indian student of his country's history, for it is but natural that, in the pride of his newly-won freedom, he should attempt to project the future he desires for his land upon its past. In the last few decades more than one historian has claimed that ancient India knew the political or social system which he himself favoured, and parliamentary democracy, the welfare state, socialism, and even communism, have been attributed to ancient India by one writer or another. In fact ancient India knew none of these systems. Her political order was generally autocratic, though autocracy was much tempered by religion, tradition, precedent, and local corporate bodies. Her social system accepted as right and normal, great privilege for the few and an inferior status for the many, though the humble folk, even the slaves, had far greater rights than in most other ancient cultures. And her economic system was one which admitted a very wide range of incomes, giving the largest share of the national wealth to the ruling classes and leaving the masses often very poor, though here too it seems probable that India compares well with most other ancient civilizations. Dr Maity has followed his research wherever it has led him, without trying to deflect its course. Himself an ardent worker for the welfare of his country, he has not been tempted to see in the Gupta period the conditions he would like to see in twentieth-century India. He has shown that in Gupta India, as in all other ancient civilizations, the lot of the toiler was hard, the peasant suffered periodically from drought which

destroyed his crops and disease which killed his cattle, and the evils of indebtedness and penury were widespread. In recognizing these facts Dr Maity has in no way disparaged India's ancient greatness, but rather has placed it in its true perspective, for there has been no time in the history of any part of the world when these evils have not existed in greater or lesser measure. Too many historians in East and West alike have looked back to vanished golden ages, and tried to build Utopias in the past; but mankind can only create a better future for himself by looking the past squarely in the face. This, I believe, Dr Maity has done, in producing this very valuable study of the economic life of the greatest period of Indian history.

London, 1957.

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Professor of the History of South Asia, University of London.


INDIA
IN THE
GUPTA AGE
SASANIAN EMPIRE
HIMĀDRI
KUSHĀNAS
ŚAKAS
VITASTĀ
CHANDRABHĀGĀ
MADRAS
IRĀVATĪ
VIPĀŚA
ŚATADRU
SINDHU
YAUDHEYAS
YAMUNĀ
ĀRJUN-
ĀYANAS
MATHURĀ
GAṄGĀ
NEPĀLA
KĀMARŪPA
DAVĀKA
BRAHMAPUTRA
AYODHYA
RAPTĪ
LICHCHHAVIS
VAIŚĀLĪ
PUṆḌRA-
VARDHANA
PĀṬALIPUTRA
NĀLANDĀ
PARIVRĀJAKAS
UCHCHAKALPA
NĀGAS
PADMĀVATĪ
CHARMAṆVATĪ
MĀLAVAS
BARBARICUM
DAŚAPURA
MANDĀSORE
AIRIKIṆA
SĀṆCHI
UJJAYINĪ
BHĀGIRATHĪ
SAMATAṬA
TĀMRALIPTI
ŚAKAS
VALABHI
BHARUKACHCHHA
NARMADĀ
GIRINAGARA
JUNAGADH
VATAPADRAKA
LĀṬA
TĀPTI
NANDIVARDHANA
MAHĀNADĪ
VĀKĀṬAKAS
SURPARAKA
GODĀVARĪ
KALIṄGA
PAŚCIMA
PAYODHI
PŪRVA
SĀGARA
KADAMBAS
KRISHṆĀ
VEṆGĪ
TUṄGABHADRĀ
GAṄGAS
PALLAVAS
KAVERĪ
KAVIRIPADDINAM
MUSIRIS
PĀṆḌYA
TĀMRAPARṆĪ
SIṂHALA
DAKSHIṆA
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CHAPTER I
INTRODUCTION

History, as we understand it, is the record of the past. In such a record the activities of Kings and their Kingdoms find frequent mention. But today the concept of history has changed a great deal and it is no longer thought of as a mere catalogue of royal activities. History has now come to be associated with the activities of common men, by whose labour state and society have gradually developed. These common men have been thoroughly neglected by historians of earlier generations. Thus, we hear only of the glory of the Pharaohs of Egypt and their Pyramids, but little heed has been paid to those who were the real builders of these great monuments. So, also, we speak highly of Shah Jahan and his wonderful architecture, but few attempts have been made to study the lives of those who built his fairy-like structures by the sweat of their brows. These dumb millions have always expressed themselves only in their priceless labour through the ages of history.

These men are the real instruments of production and civilization, and their labour has built the economic prosperity of every nation. So to study the economic life and progress, upon which the civilization of a nation depends, is to study their history. The bases of the economic life of a nation are, thus, the common men, their activities and their relation with the state and society at large. Of course, the richer section of the society is not excluded from our analysis, for they are the greatest consumers known to every age ; and the production and consumption must go hand in hand in order to achieve the real material progress of a country.

The early economic life of India, up to the age of the Kushāṇas and the Śuṅga has been more or less adequately dealt with by a number of scholars. We, now, attempt to continue their labours through the 250 years of the Gupta Empire, which was, perhaps, the high-watermark of ancient Hindu civilization in India.

Before the rise of the Imperial Guptas, India had developed an advanced system of agriculture, industry, and trade. The unification of almost the whole of the Gangetic valley by Chandragupta I[1] and his famous son Samudragupta, and the incorporation of Mālwā, Gujarat and Kathiawar by Chandragupta II ensured a strong and well-organised

[1] The Dynasties of the Kali Age—Pargiter. p. 53:—"Anu Gaṅgam Prayāgam cha . Sāketam Magadhāṃstathā etān janapadān sarvān bhokshyante Gupta-vaṁśa-jāḥ."

government for the richest and most populous regions of India. The power and prestige of this new empire rose so high by the time of Samudragupta as to secure respect for the imperial authority from local rulers up to India's natural frontiers in the East, as well as in the West. He did not attempt to extend his empire south of the Vindhya mountains, but he carried out a successful military raid into South India. Marching through the jungles of Madhya Pradesh he reached the coast of Orissa (Kaliṅga) and followed the coast-road as far as Nellore. On his return journey, he received the submission of the Kings through whose territory he passed, together with huge sums in the form of tribute, but made no attempt to annex their lands permanently. So great was the fame of Samudragupta, that the Kings of far distant Ceylon, and of the Śakas and the Kushāṇas of the north-west of India, sent embassies to him.

The annexation of Western India by Chandragupta II was not his only achievement. After the premature death of his son-in-law, Rudrasena II, the Vākāṭaka prince, Pravarasena II was a mere child, for about twentyfive years, during the regency of his daughter Prabhāvatī-guptā, the Vākāṭaka Kingdom came under the influence of Chandragupta II. He was succeeded by his son, Kumāragupta I (c. A.D. 415-454), who possibly preserved the empire of his fore-fathers intact. But in the last years of Kumāragupta I his empire suffered a serious blow from the Hūṇas. During the struggle with the Hūṇas he died, and his son, Skandagupta (c. A.D. 455-467), assumed power. He defeated the invaders and was able to establish royal power throughout his empire. But after his death the great days of the Guptas were over. Under the relentless attacks of the Hūṇas the fabric of the mighty empire gradually crumbled. Although the successors of Skandagupta continued to rule their small empire, mainly confined to Magadha and Bengal, for a few generations, the local governors ruled almost independently in many parts of the Gupta Empire. However, in the hey-day of the Guptas the people enjoyed prosperity and peace.

Much has been written about the political history of this and other periods. But their economic structure has not been properly surveyed. The works of a few Indologists, however, throw some light on the subject. Scholars like Drs. Rhys Davids,[2] Fick,[3] Bose,[4] Prān Nāth,[5]

[2] Buddhist India.

[3] Die Sociale etc.

[4] Social and Rural Economy of Northern India (c. 600 B.C.—A.D. 200.)

[5] Economic condition of Ancient India.

Warmington,[6] Bandyopadhyaya,[7] Mookerji,[8] Majumdar[9] and others have added considerably to our knowledge of the economic condition of ancient India. They had the great advantage of utilising the vast Pāli literature, the two great Epics, Kauṭilya, Manu, classical writers, and other sources for their purposes. But many of them have suffered from a lack of adequate epigraphic materials and other contemporary documents to provide a sound basis for their analysis. Numismatic data has been hardly utilised. Many authorities have relied too much upon the story element of the Jātakas and the Epics. Some have portrayed the socio-economic conditions from the earliest time to a few centuries after the Christian era without tracing the gradual development of the major socio-economic institutions period by period. So some of the works on ancient Indian economy appear to us mere catalogues, rather than systematic historical analyses. In many respects the Cambridge History of India, Vol. I, is a definite landmark in the study of the socio-economic life of India. Its various authors have successfully dealt with economic institutions,—their origin, growth and development, up to the Śaka-Kushāṇa period, along with other aspects of ancient life.

These works have thrown some light on the economic life of Northern India from the Ṛig Vedic period up to A.D. 200. The economic history of the next period from A.D. 200 onwards, though comparatively rich in archaeological and other material, has not yet properly attracted the attention of Indologists. So it has invited our attention.

In our study we met one initial difficulty. The third century A.D. is regarded as the dark period[10] of ancient Indian history, owing to the paucity of original materials. So we have been compelled to ignore that period ; and we have given our attention to the following centuries. It should be here noted that three works have been so far published dealing in part with the economic life of our period. One is the "Life in the Gupta Age", by R. N. Saletore. His work covers the period from A.D. 300 to A.D. 750. In it the author tries to throw some light on all aspects of life and the State. But its chapter touching on economic life is far from satisfactory; and on many occasions the author has misinterpreted his sources. He has not utilised Gupta coins for the study of economic conditions ; and he has completely ignored

[6] Commerce between the Roman Empire and India.

[7] Economic Life and Progress of Ancient India, Vol. I.

[8] History of Indian Shipping.

[9] Corporate Life in Ancient India.

[10] Smith—Early Hist. of India. p. 292. 4th ed.

such important sources as Varāhamihira and Amara. The second work is volume six of "The New History of the Indian People", comprising the Vākāṭaka-Gupta age, edited by R. C. Majumdar and A. S. Altekar. It is mainly a political rather than an economic history of the period. The economic condition is discussed within five pages (pp. 326-331). The third is "The Classical Age", edited by Dr. R. C. Majumdar and Dr. A. D. Pusalker. This covers the period from A.D. 320—A.D. 740. In it, although a well known Indologist like Dr. U. N. Ghoshal has contributed ten pages on economic life, yet he has dealt with his matter in a very casual and superficial way. So the need remains almost the same, even after publication of this volume.

The main purpose of our work is to reconstruct the economic fabric of Northern India in the age of the Imperial Guptas as completely as possible ; and the sources that have been utilised for this purpose are both epigraphic and literary. As far as possible proper attention has been given to all the Gupta inscriptions, coins, art and architecture, law-books, social and literary works with equal emphasis. Some earlier works, like Ṛig Veda, Atharva Veda, Mahābhārata, Jātakas, Arthaśāstra, Manu, Yājñavalkya, Vishṇu, Gautama, Megasthenes and some early inscriptions, and the later works like Śukraniti-Sāra, Rājataraṅginī, Harshacharita and some medieval inscriptions have been occasionally used in order to place our subject in its proper historical setting.

Although most of the inscriptions of our period are merely copper-plate grants or stone tablets, yet they throw considerable light on the economic life of the day. Thus a number of inscriptions from the eastern part of the Gupta empire show that local government was in the hands of a board formed by the *Nagaraśreshṭhin, Sāthavāha, Prathama-Kulika* and *Prathama-Kāyastha.* Moreover, the minor details of land-system and land-revenue known from our inscriptions are not generally met with in other sources. They have also the singular advantage that their data can be definitely dated and located. Another merit of inscriptions is that their texts are free from variant readings and were not liable to modification, like those of literary works, which were copied and re-copied by people in later times. But these other sources throw light on ancient Indian conditions in a broad and general way. So the inscriptions have received our primary attention as a source of our study. All the Gupta coins, works of art and other material remains have received our next attention.

Moreover, we have worked on the seven works of Kālidāsa generally accepted as authentic, viz. Mālavikāgnimitra, Vikramorvasī, Abhijñāna Śakuntala, Ṛitusaṃhāra, Meghadūta, Raghuvaṃśa and

Kumārasambhava. Although his works mainly refer to conditions of opulence and plenty, and his attention was mostly confined to the upper strata of society, yet they contain some useful references to the economic life of the day. In that respect the Mudrārākshasa of Viśākhadatta and the Mṛichchhakaṭika of Śūdraka, which are generally believed to have been written in our period, supplement our knowledge by depicting the general condition of society, which is rather different from that portrayed by Kālidāsa.

Text books on astronomy and astrology like the Bṛihatsamhitā and Bṛihajjātakam of Varāhamihira have received our due attention. Hitherto these have never been utilised for the study of history. For the thorough study of economic conditions we have prepared a chart[1] from them. From the astrological and astronomical predictions summarised in this chart we can get some idea of the general state of agriculture, cattle-rearing, trade and commerce, and the periods of prosperity and adversity and of famine, etc., information about which is sadly lacking in many of our sources. It is strange that Varāhamihira is almost silent about industries. This may be due to the fact that his profession was more favoured by the agricultural and commercial interests than the industrial. It seems that he mainly wrote his works for the benefit of an agricultural society.

Next to these works the Amarakośa, which is generally believed to have been written in the Gupta period, gives us a mine of information regarding the economic life of the day. Its references have been utilized for a comparative study with other materials, derived from literature, epigraphs, and archaeology.

Moreover, the Kāmasutra of Vātsyāyana, which mainly deals with erotics but touches on many other aspects of Hindu social life, has thrown some light on the every day life of the people. Its references are occasionally used.

Three legal and political texts, viz. Kāmandakīya-Nītisāra, Nārada-Smṛiti and Bṛihaspati-Smṛiti are believed to have been written during this period. Kāmandakīya-Nītisāra is a guide book for Kings, for it mainly deals with the King's life, his duty and responsibility. In spite of this, it contains some references to the economic life of the day.

There is much contention among scholars regarding the dates of Nārada and Bṛihaspati. The orthodox school believes that Nārada and Bṛihaspati belong to the earlier period. But in these two treatises the authors mention that, as the Holy Manu enacts such and such laws for this or that purpose, they also hand down these injunctions. This

[1] Appendix I.

point favours placing Bṛihaspati and Nārada in a later period than Manu. If the final compilation of Manu is placed on the first century of the Christian era or a little earlier, so the compilation of Nārada and Bṛihaspati must have been effected from the second century A.D. to the fifth or sixth century A.D. Moreover, they refer to *dīnāras* (gold coins) which were probably first imported into India by the Roman merchants of the first century A.D. And naturally these coins took sometime to become familiar enough to the Indian people to find mention in the law-books and other texts. Moreover, after detailed examination of many Sanskrit texts, P. V. Kane, in his "History of Dharmaśāstra", has placed these books from the third century A.D. to the fifth or sixth century A.D. Even if we accept the opinion of the orthodox school, the laws and regulations which were established a century earlier would be traditionally followed one or two centuries later. This is also confirmed by the fact that many of the laws of Nārada and Bṛihaspati are the same as those of Manu, Yājñavalkya, Vishṇu, Gautama and other earlier law-givers ; and a good many others are mere elaborations of the laws of the former law-givers. Both these law-books lay down numerous laws and regulations on economic life, although they are of a general nature.

The Chinese traveller, Fa-hsien, visited India during the reign of Chandragupta II at about A.D. 405-411, and left an account of his travels. Unfortunately the pious monk was so absorbed in his own studies that he did not even mention the name of the King then ruling. He said little about the general state of the country. It must be doubted that Buddhism held the predominant position he would lead us to believe. The evidence of the coins, which have brahmanical legends, and of inscriptions, shows that the rulers were Hindus, and that Buddhism must, by this period, have long passed its zenith. Fa-hsien probably passed most of his time in studying the various monasteries and saw little of the every-day life of the people. However, he reports that Pāṭaliputra was still one of the most flourishing towns in the empire, and that Magadha was one of the most prosperous districts in the Middle Kingdom.

Moreover, some contemporary Chinese texts edited and translated by Frederick Hirth in his "China and the Roman Orient" are utilised in this book in order to understand India's position in international trade. Further light has been thrown upon this subject by another Sinologist, Berthold Laufer, in his "Sino-Iranica".

Another important source is Cosmas Indicopleustes. He wrote his "Christian Topography" in A.D. 535-547 and he uses information gained in the course of his travels in the Mediterranean, the Red Sea.

the Persian Gulf, India and Ceylon. In his early life he was a merchant and travelled for purely commercial purposes, and finally he retired from commerce and became a monk.

Great historical importance lies in his information about the geography and commerce of that time. He conscientiously informs his readers about the sources used and evaluates each of them thoroughly. He discriminates his own observations as an eye-witness from the information obtained from other eye-witnesses, and from facts learned by hearsay. From his own experience he describes the palace of the Abyssinian King in the City of Axum, and gives an accurate account of several interesting inscriptions in Nubia and on the shores of the Red Sea. He tells us also of Indian and African animals, South Indian pepper, etc. But he gives the most important information about the island of Tāprobane (Ceylon), explaining its commercial importance during his time. It thus appears from his account that in the sixth century Ceylon was a great centre of world-commerce, connecting India, China, East Africa, Persia and, through Persia, the Byzantine Empire. In Cosmas' own words, "the island being, as it is, in a central position, is much frequented by ships from all parts of India and from Persia and Ethiopia, and it likewise sends many of its own".[2]

In this respect Procopius of Caesarea, a contemporary Byzantine writer, supplements the information given by Cosmas. At first he appeared as a private secretary to Belisarius in A.D. 527. For several years he accompanied the general in Persia, North Africa and Sicily, and in A.D. 542 returned to Byzantium, where he apparently devoted himself to literary pursuits. His various works, especially the "de Bello Persico", throw light on India's trade relations with the Byzantine Empire, and the effects of occasional Persian rivalry on that trade. Some minor references of importance on this point can also be gathered from his other works.

Lastly, the Byzantine Emperor Justinian in his Law Digests gives a long list, including many commodities imported from India, in connection with his custom regulations. All these foreign sources much help us to understand clearly the maritime relations of India with the known world.

Basing our work on these materials, we have attempted to portray the economic structure of our period. Apart from a general reconstruction, we have laid special emphasis on the reorientation of existing knowledge on the subject, by interpreting and elucidating known, half-known and misunderstood facts in the light of up-to-date information.

[2] Cosmas. p. 365.

In order to understand our subject clearly, we have divided our work into nine convenient chapters. The first chapter deals with the utility, scope and sources of our subject. The second chapter tells us about the geographical background, ownership of land, types of land, land tenure, land survey, land measurement, land grants, and land sale. The third chapter discusses land revenue and miscellaneous taxation. The fourth chapter treats of agriculture and agricultural labour, irrigation, famine, forestry and animal husbandry and pastoral labour. The fifth chapter describes various industries and industrial labour. The sixth chapter deals with trade and commerce, and mercantile labour. The seventh chapter surveys slavery, hired labour and forced labour. The eigth offers a picture of corporate activities in economic life and the last chapter includes currency and exchange, and moneylending. We thus try to give as complete a picture as possible of economic life in the Empire under the Imperial Guptas of Northern India from c. A.D. 300 to A.D. 550.

Chapter II

LAND SYSTEM

Geographical Background—Ownership of Land—Types of Land —Land Tenure—Land Survey—Land Measurement—Land Grants—Land Sale

I. Geographical Background :

The land was the bed-rock of ancient Indian economy. The main source of wealth and the chief support of life are India's rich soil, river system, mountain ranges and seas. So, before saying anything about the land-system of Northern India, we must give a very definite idea of its location and its natural geography. It comprises roughly the land between the Himalayas (Himādri)[1] in the north, the Hindu Kush in the north-west, the Vindhyas[2] and the Narmada[3] in the south, the Brahmaputra (Lauhitya)[4] and Assam (Kāmarupa)[5] in the east, the eastern sea (Pūrvasāgara[6], mod. Bay of Bengal) which ultimately meets the Indian Ocean (Mahodadhi)[7] in the south-east.

Like a protecting deity, the Himalayas (Himādri) guard the summer and autumn monsoons and send torrents of water supplied by rain or melting glaciers to the plain below all the year round, through the Indus (Sindhu),[8] the Ganges (Gaṅgā)[9] and the Brahmaputra (Lauhitya). These three great rivers have formed the most fertile plain of northern India, which is copiously watered by them and their numerous tributaries.

In the north-west the Indus (Sindhu) arises from the mighty Himalayas and falls into the Arabian sea. It supplies water on the north-western fringe of India by its five tributaries. Two of its tributaries,[10] the Śatadru and Vipāśā, are referred to in the Amarakośa. But in many respects the Ganges (Gaṅgā) surpasses the Indus as a source of the material civilization in the major part of northern India. Thus, it is rightly said, "There is not a river in the world which has

[1] Raghu IV. 79, Kum I.I.
[2] Raghu VI-61; XII-31; XIV-8; Ṛitu. ii, 8, 27.
[3] Raghu VI-43; Māl—I p. 1009, Amara 9.33., p. 67.
[4] Raghu IV-81.
[5] Fleet, p. 8.
[6] Raghu IV, 32.
[7] Raghu IV, 34.
[8] Māl, V. p. 1118; Legge, p. 26.
[9] Raghu IV. 73; VI, 48; VII-36; VIII-95; X-26; 69; XIII-57; XIV-3; Kum I-30, 54; VI-38, 70. Amara 9, 31, p. 66; Legge. p. 93.
[10] Amara 9, 34, p. 67.

influenced humanity or contributed to the growth of material civilization or social ethics to such an extent as the Ganges".[1] It formed the main channel of inter-state commerce and brought immense wealth to northern India through the international trade of Tāmralipti[2] (modern Tamluk in the Midnapore district). It was known in the classical world to have 19 tributaries, and sub-tributaries and most of them were navigable.[3] Many of them are also mentioned by Kālidāsa. They are the Yamunā,[4] Śarayu,[5] Sarasvatī,[6] Śoṇa,[7] Mahākosī,[8] Mālinī,[9] Mandākinī,[10] Tamasā,[1] Śiprā[2] and Kapisā.[3]

The river Ganges flowing through the major part of northern India, drains into the Bay of Bengal.[4] But before it reaches that Bay it is joined by the third mighty river called Brahmaputra,[5] forming a great delta[6] with the Ganges.

Within the basin of the Ganges have been founded the chief Kingdoms of the plain, the most ancient cities and the earliest centres of civilization, industry and wealth of the historical period.

The mighty river with its numerous tributaries and sub-tributaries "has silently worked through the ages in an unceasing process of regeneration of the soil, spreading life and strength abroad among the millions who venerate its sanctifying agency and purify themselves from sin in the turbid flood which laps the temple steps of Hardwar and Benares. All of the Gangetic basin is within the influence of the south-west monsoon rains ; and the thick humid atmosphere of steamy effervescence, which is the characteristic of Lower Bengal and of those provinces to the south which are watered by the Mahānadī, makes all the land green with luxuriance of vegetation."[7] Especially in the lower reaches of the Gangetic delta "the traveller passes through nothing but a wide area of crop-producing land, broken by clustering groves of mango, tamarind, and other trees, giving place gradually to long lines

[1] Imp. Gaz. I. p. 26.
[2] Legge, p. 100.
[3] MacCrindle's Ant. Ind. of Mega. and Arri. pp. 63-64.
[4] Raghu VI 48, 49 XIII-57; Amara 9, 32, p. 67.
[5] Raghu VIII-95; IX-20; XIII-63; XIX-40.
[6] Raghu III-9.
[7] Raghu VII-36; Amara. 9, 34, p. 67.
[8] Kum. VI 33.
[9] Śak. III, p. 859.
[10] Raghu XIII-48; Kum I-29; II-44.
[1] Raghu IX-20, 72; XIV-76.
[2] Raghu VI-35.
[3] Raghu IV-38.
[4] Raghu IV-32.
[5] Raghu IV-81.
[6] Raghu IV-36.
[7] Imp. Gaz. I. p. 22.

and avenues of palms[8] bordering the fresher verdure of irrigated rice-fields."[9]

Like its uneven topography, the meteorology of India is full of diversities ranging from the torrential rainfall of Assam and the Charrapunji Hills to the absolute dryness of western Rajasthan, Sind and the Punjab. According to the Arthaśāstra[10] also the rainfall in the country of *Jaṃgala* (desert countries) is 16 *droṇas*, in moist countries (*anupānām*) 24 *droṇas*, in the Aśmakas mod. Nizamabad 13½ *droṇas*, in Avanti 23 *droṇas*, in the western countries (*aparāntānām*) and the Himalayan borders an immense quantity. Moreover, the "tropical heat, heavy and frequent rain and fierce cyclones are prevalent at one period of the year ; while moderate temperature and rain, with shallow, extensive storms,—conditions resembling those of south-eastern Europe,—obtain at another".[1] Some of these natural phenomena are also referred to by the great astronomer and physicist Varāhamihira.[2]

Thus, we see that the natural surroundings are not very congenial in every part of northern India. The people of the lower Gangetic plain earn their livelihood with less effort than their brethren at Rajasthan, Sind and the Vindhyan region. Though, owing to the paucity of data we are forced to treat the economic life of Gupta India largely as a whole, it must not be forgotten that wide economic variations, mainly due to geological, geographical and meteorological differences, existed in different parts of the Empire.

II. Ownership of Land :

The ownership of land is one of the most controversial questions relating to the Gupta land system. Scholars have suggested different forms of ownership of land at this period; and theories have been put forward maintaining the prevalence of royal ownership, private ownership and communal ownership.

Before further investigation of these theories we must have a very clear idea about the nature of simple possession, irrespective of legal title, legal ownership and the absolute ownership.

There is a popular maxim that the field belongs to him who first removed the weed, and the deer belongs to him who first wounded it.[3]

[8] C. F. Raghu IV. 34.
[9] Imp. Gaz. I. p. 22.
[10] Arth. ii-41. pp. 115-16.
[1] Imp. Gaz. I. p. 105.
[2] Appen. I.
[3] Manu IX. 44.

But the analogy of deer and land is not very practical here, for the dead deer will soon be destroyed altogether by the slayer, while, in the case of land, the question of permanency of possession will certainly arise. It might have been possible in the earliest times to enjoy the fruits of the land in many places in India without interference, though there may have been no legal title, because there was practically no demand for land. But when the demand for land gradually increased along with settled agricultural life, the squatter's claim was certainly at stake. He could no longer enjoy the land merely by virtue of his first occupation, without some valid title behind it. As we shall see later, at least in the Gupta period the demand for land for agriculture and other purposes was considerable. Vinogradoff[4] rightly remarks that this maxim of Manu evidently goes back to great antiquity, and it implies not permanent ownership, but mere possession.

But in course of time mere possession of land without any legal basis was no longer valid and accepted in Indian society, despite Manu's maxim. Various law-givers denounce this kind of ownership by mere possession, and lay down rules to give it legal validity. The earlier Smritis like Yājñavalkya[5] state that possession (*bhoga*) acquires validity, when it is accompanied by a clear title (*āgamena viśuddhena*), and is not valid without the same. According to Bṛihaspati,[6] possession become valid, when it is coupled with legitimate title (*sāgamaḥ*). But Nārada is far more explicit regarding the legal title of ownership. Where there is enjoyment, but no title of any sort, a title is required in order to produce proprietary right. Mere possession is not sufficient to create proprietary right in that case. A clear title having been produced, possession acquires validity. But possession without a clear title does not constitute evidence of ownership.[7] Nārada goes a step further and frames laws against illegal possession. He who can only plead possession, without being able to produce any title, must be considered a thief.[8] Moreover, if a man enjoys possession without a title even for a hundred years, the ruler of the land should inflict on him the punishment ordained for a thief.[9] But this rule is elsewhere contradicted by Nārada himself and by Bṛihaspati, as we shall see below.

Over and above simple possession, Bṛihaspati and Nārada suggest

[4] Vinogradoff's Jurisprudence Vol. I, pp. 324-5; also p. 325, f.n. 1.
[5] Nārada :—Commenting on the passage 28. sec. ii of Yājñavalkya. p. 446. Chowkamba Saries No. 322.
[6] Bṛi VII. 24-25, 30; Manu VIII, 200.
[7] Nār. I. 84, 85.
[8] Ibid. 86.
[9] Nār. I. 87.

another mode of valid ownership of property. He who has occupied land quite unopposed and uninterrupted or a period of thirty years, cannot be deprived of such property. It is also lost to the original owner by such forbearance.[10] At the same time, it is admitted that a house, field, commodity or other property held by a person other than the owner, is not lost to the owner by mere force of possession, if the enjoyer stand to him in the relation of a friend, relative or kinsman.[1] But such wealth as is enjoyed without title by a son-in-law, a learned Brāhmaṇ, or by the king or his minister, does not become their legitimate property even after the lapse of a very long period. Bṛihaspati further lays down that when enjoyment of property extending over three generations has descended to the fourth generation, it becomes legitimate possession, and a title should never be enquired for. Finally, he concludes that that possession is valid in law which is uninterrupted and of long standing.[2] Nārada closely follows Bṛihaspati on the issue of hereditary possession. When possession has been successively held, even unlawfully, by the three ancestors of the father of the present possessor, the property cannot be taken away from him, because it has gone through three lives in order.[3]

Yet in many circumstances mere possession is not considered valid in the eye of the law. There must be some legal title to the property in question. This is also corroborated by the epigraphic evidence. The Copper-plate grant of Dharmāditya[4] implies that a Copper-plate charter was regarded as legal evidence of ownership of a piece of land. So it was necessary to replace it, if the document were split, torn, effaced, lost or badly written.[5]

Moreover, the law-givers explicitly define ownership as a quality of the object owned of being used according to pleasure. Gautama and Manu of the earlier period indirectly testify that the essential attributes associated with ownership are sale, gift and mortgage; and that an owner might also use land as he pleased.[6] Finally, one author of the great mediaeval digest of the Hindu Law evidently has a very clear notion of the concept of ownership. Thus in the opinion of Nīlakaṇṭha, the author of Vyavahāramayukha, who lived in the

[0] Bṛi. VII, 27-28.

[1] Bṛi. VII. 44.

[2] Bri. VII. 46, 54, 60.

[3] Nār. I, 91.

[4] I.A. 1910, p. 195. L. 12 and p. 196, L. 17 Plate "A". Also Fleet, p. 137, L. 13—"....tāmraśāsan (e)n = ānumoditau...."

[5] Nār. I 146.

[6] Gaut. X. 39. Manu VIII. 199.

seventeenth century, ownership (*svatva*) is a special capacity produced by purchase, acceptance and the like.[7]

The legal title of ownership might be acquired in various ways. The early law-giver, Gautama, lays down that a person becomes owner (*svāmī*) by means of inheritance, purchase, partition, acceptance and finding.[8] Following him Manu also mentions seven lawful modes of acquiring wealth, namely inheritance, finding or friendly donation, purchase, conquest, lending at interest, performance of work (or alternatively performance of sacrifice for others) and acceptance of a gift from the virtuous.[9]

In the opinion of Bṛihaspati,[10] immovable property is acquired (*āpyate*) in seven ways, viz. by learning, by purchase and mortgage, by valour, by marriage, by inheritance, and by succession to the property of the kinsmen without issue. Nārada[1] further elucidates the injunctions of the former law-givers. Property obtained by inheritance, gifts made out of affection and what had been obtained with a wife (as her dowry), these are the three sorts of pure wealth for all classes without distinction. But the pure wealth particular to a Brāhmaṇ is declared to be three-fold, viz., what has been obtained as alms, by sacrificing, and for instructing a pupil. The pure wealth peculiar to a Kshatriya is of three sorts. What has been obtained in the shape of taxes, by fighting (conquests) and by means of fines (imposed on the wrong-doers). Moreover, the pure wealth for a Vaiśya is also declared to be three-fold, that is, what has been acquired by tillage, by tending cows, and by commerce ; while for a Śudra it consists of what is given to him by a member of the three higher castes.

[7] Vyavahāramayūkha of Bhaṭṭa Nīlakaṇṭha—p. 89—"Atha dāyādinirṇayopayogi svatvam. Tachcha kraya--pratigrahādijanyaḥ śaktiviseshah".

[8] Gaut. II. I. p. 35—39 verse—"Svāmī rikthakṛiayasamvibhāgapari grahādhigamesu....[Anandasarma (skt) series 61].

[9] Manu X. 115 :—"Sapta vittāgamā dharmyā dāyo lābhah krayo jayaḥ.
Prayogaḥ karmayogaścha satpratigraha eva cha".

N.B. :—The term *"lābha"*, (finding or friendly donation—Medhā; Kull) refers according to Nār. and Nand. to the acquisition of treasure-trove alone, not to the acceptance of presents from friends, father-in-law, etc. *"Jaya"*, (conquest), means, according to Nand., "gaining lawsuits". The same commentator takes *"prayoga"*, (lending money at interest), in the sense of teaching, and *"Karmayoga"* (performance of labour), in the sense of sacrificing for others. All the commentators, except Nand., point out that the first three modes of acquisition are lawful for all castes, the fourth for the Kshatriya, the fifth and sixth for the Vaiśya and the seventh for the Brāhmaṇs.

[10] Bṛi. VII, 23.

[1] Nār. I. 51-54.

Thus, it would appear that the earliest concept of ownership was derived from the first occupation, when there was less demand for land. But in later years, owing to the rapid advance of settled agricultural life, a more stable form of ownership of the soil was demanded. Legal sanction was needed and hence the ancient jurists framed laws and regulations governing the ownership of land. These regulations duly safeguarded the interests of the possessor against a possible future challenge to the validity of his possession. But, to implement these laws, absolute power was required. And as a result of the growth of royal power, the king was more and more looked on as the absolute lord of the soil.

During the time of the Mauryas, the imperial authority was keenly felt in the major part of the Indian sub-continent. In our period, 200 years continuous rule of the Imperial Guptas offered a well-knit government in wide areas of northern India. Their power and influence all over the empire were for most of this period more or less unchallenged and undisputed. In such circumstances it would be not unnatural that all lands were thought of as ultimately belonging to the king. The supreme power was vested in the crown and individual legal ownership of land was derived from the king and subject to his final authority. The individual could enjoy property quite peacefully, so long as he paid his dues to the state. Thus, the tax on crops and other products of the soil came to be looked on as a sort of rent in return for tenancy.

The concept of the ultimate royal ownership of land can be easily traced in the early law books and foreign accounts. Manu[2] speaks of the king as ultimate lord (*adhipati*) of the land, and therefore entitled to his share of treasure and minerals. Another Smṛiti writer, Gautama, is very clear in his opinion on the question of royal ownership, for he states that king is the master of all except the Brāhmaṇas.[3] He is also supported by Bṛihaspati who declares that the king is the lord of all.[4]

We have the same impression of royal ownership from foreign accounts. In Mauryan times Megasthenes expressed the matter very clearly. "The second caste consists of the Husbandmen who appear to be far more numerous than the other.... They devote the whole of their time to tillage ; .... They pay a land-tribute to the king, because all India is the property of the crown, and no private person is permitted to own land. Besides the land-tribute, they pay into the

[2] Manu VIII, 39.
[3] Gau. XI. I.
[4] Bṛi. XXVI. 119.

royal treasury a fourth part of the produce of the soil."[5] These references leave no room for doubt that at least from the Maurya period onwards the supreme authority of the crown had extended over all lands.

The ownership of land by the king can also be substantiated from a host of Gupta inscriptions, in which the kings of this period are recorded as endowing a village, a part of a village or a certain amount of land. It is difficult to account for the king's power to grant rights over villages to religious bodies, unless it was implicitly believed that he was the ultimate owner of the land.

Thus, from records like the spurious Gayā Copper-plate of Samudragupta,[6] the Nālandā Plate of Samudragupta,[7] the Bhitari Stone Pillar Inscription of Skandagupta,[8] the Khoh Copper Plate Inscription of Hastin,[9] the Khoh Copper Plate Inscription of Śarvanātha,[10] the Āraṅg Copper Plate of Mahā Jayarāja,[1] the Rāypur Copper Plate of Mahā-Sudevarāja,[2] the Siwani Copper Plate of Pravarasena II,[3] the Majhgawām Copper Plate of Hastin,[4] the Kāritalāi Copper Plate of Jayanātha,[5] the Khoh Copper Plate of Jayanātha[6] and the Khoh Copper Plate of Śarvanātha,[7] we know that whole villages were donated for religious and charitable purposes. These donations undoubtedly indicate that the king had the supreme ownership over the whole village; otherwise he could not transfer such comprehensive rights over the whole village in such a way. Moreover, in these cases the donees not only acquired the right to receive a certain amount of the royal revenues, but in some occasions, they also enjoyed all kinds of royal dues which are often specifically recorded in the inscriptions. It is not stated in any inscription that they had the right to dispossess peasants at will, and we assume that this right was not accorded to

[5] MacCrindle's Ant. Ind. of Megh and Arri. pp. 41-42.
[6] Fleet, p. 254.
[7] E.I.—XXV, p. 50.
[8] Fleet, p. 52.
[9] Ibid, p. 93.
[10] Ibid, p. 135.
[1] Ibid, p. 191.
[2] Ibid, p. 196.
[3] Ibid, p. 243.
[4] Fleet, p. 106.
[5] Ibid, p. 117.
[6] Ibid, p. 121.
[7] Ibid, p. 125.

them, though no doubt they could punish or evict tenants who refused to pay their dues.

In some cases some portion[8] of a village land is donated. But the nature of the grant in such instances was not the same as in the case of a whole village with its varied population dwelling on all kinds of land. In any case, the peasant's tenureship of the donated land remained the same; and in both types of grant the villagers, who used to pay the revenues to the king, would henceforth pay the same to the donee instead of the king. In other words, such a grant implied the transfer of revenue from the state to the donee; and the state retained only some prerogative rights over the village. But in the case of a single field the donees enjoyed the produce of the soil, and in most cases were exempted from payment of the royal dues. Moreover, there is no record of the donation of a whole village except by the king. This leaves no room for doubt that the king was thought of as the ultimate owner of the villages.

Even after the donation of the land the king reserved certain prerogative rights over the donated lands, such as the right of imposing fines on thieves.[1] Moreover, the new owner was not allowed to exact any new taxes from the people of the donated area, and was liable to punishment or annulment of his rights if he imposed any new taxes.[2] The donee, enjoying tax-free village or lands, was forbidden to encourage revenue-paying cultivators, artisans, etc., from other villages to immigrate into the donated villages,[3] for this would involve loss of revenue to the state. In certain land grants the state still has specific rights of enjoyment.[4] Furthermore, certain conditions of tenureship are imposed on land grants. Thus, in the case of lands granted under the terms of *nīvi-dharma*, *akshaya-nīvi-dharma*, *apradā-dharma*, etc., the donees have no right to alienate them by sale or mortgage, etc.

To purchase and donate a piece of land ordinary citizens had to take permission from the state. For this purpose they had to apply to the state through the local authorities.[5] Thus, when Vāṭabhoga purchased a triple *kulya-sowing* area of cultivated land at the rate of 4 *dīnāras* from the local bodies of the *bhukti* of Varāka, he had to take the permission from the district

[8] Fleet, pp. 29, 47, 100, 112, 129, 164, etc.
[1] Fleet, pp. 106, 117, 121, 135; E.I. VIII p. 284.
[2] Fleet, pp. 117, 121, 125, etc.
[3] Fleet, p. 254.
[4] J.A.S.B. (N.S.) XX, p. 58; Fleet pp. 235, 243.
[5] Dharmāditya's Plate "B", I.A. 1910, p. 199 and Gopachandra's Plate "C" —Ibid, p. 203.

governor.[6] State sanction was specially required in these cases, because only the state had authority to exempt the land from all kinds of royal dues. But it is not possible to establish whether the sanction of the state was required in ordinary secular land transactions, for we have no such sale deeds in our period.

In most of the inscriptions it is specifically stated that the king has no right to confiscate land once granted by him or by his predecessors. But in some cases the king reserves the right of confiscation under certain circumstances. In the Chammak Copper Plate of Pravarasena II[7] it is stated that "this condition of the charter should be maintained by the Brāhmaṇs and by (future) lords; namely (the enjoyment of this grant is to belong to the Brāhmaṇs) for the same time with the moon and the sun, provided that they commit no treason against the kingdom, consisting of seven constituent parts,[8] of (successive) kings; that they are not slayers of Brāhmaṇas, and are not thieves, adulterers, poisoners of kings, etc.; that they do not wage war; (against the king) (and) that they do no wrong to other villagers. But, if they act otherwise, or assent (to such acts), the king will commit no theft in taking the land away." We thus see that the king still has some protective rights over the donated areas of the village Charmāṅka. We also hear of the endowment of a field which was previously enjoyed by a merchant. The Grants of Mahārāja Svāmidāsa[9] states: "I hereby consent to the *brahmadeya* grant of a field, the holding of the merchant Āryya, situated in the village of south Valmīkatalla-vāṭaka in the district of Nagarikā, to the Brāhmaṇa named Muṇḍa....." But it is not made clear whether the land was purchased from Āryya; if it was not duly purchased, it must have been appropriated from the original owner by the royal prerogative right. According to the legal tradition the king could only appropriate the wealth and property of a dead subject who had no heir.[10] This is supported by Bṛihaspati and Nārada, who hold that if a Kshatriya, Vaiśya or Śudra die without male issue, or wife or brother, their property should be taken in escheat by the king, for he is the lord of all.[1]

[6] Dharmāditya's Plate "A" I.A. 1910, p. 195.

[7] Fleet, p. 235.

[8] Fleet, p. 242, fn. 4. The seven constituent parts are :—Sovereign (svāmin), ally (suhṛit), treasury (kosha), territory (rāshṭra), fortress (dūrga) and army (bala)—Kāmandaka, i, 16: IV, I. Vishṇu III-33; Śukra I. 121, 122.

[9] E. I. XV. p, 286.

[10] Śak. VI. pp. 962-963 (indirect ref.).

[1] Bṛi. XXVI 119; Nār. XIII, 51.

The royal ownership is further substantiated from the king's enjoyment of various kinds of taxes and revenues, which we shall exhaustively discuss in the proper place. Nārada[2] and many other early law-givers[3] state that the sixth part of the produce of the soil forms the customary royal revenue, in return for the protection of the king's subjects. This is also corroborated by numerous literary evidences.[4] Kālidāsa states that by protecting asceticism from obstacles and wealth from robbers the king was made the enjoyer of one-sixth of their earnings by the respective *Āśramas* and the different castes, according to their respective capacities.[5]

Probably large tracts of cultivable and uncultivable fields remained directly at the king's disposal. As Fa-hsien states, "(In the Middle country) the people are numerous and happy. They do not have to register their households or to attend to any Magistrates and their rules; only those who cultivate the royal land have to pay (a portion of) the grain from it."[6] We also have some references to the sale of such state lands in our period.[7]

Mines were without any doubt regarded as a state monopoly. The earlier law-givers such as Vishṇu[8] state that everything dug up from mines belongs to the king. In the opinion of Manu[9] also the king obtains one-half of the ancient hoards and metals found in the ground, by reason of his giving protection, and because he is the lord of the soil. The king had also the monopoly over treasure trove (*nidhi*), as we see from the numerous inscriptions in which the king gave such right of enjoyment to the donee.[10] Nārada[1] and many other earlier law-givers[2] include treasure trove as one of the sources of state wealth.

We have discussed so far the implications of possession, legal ownership and absolute state ownership. We now review the current theories on the question of the existence of state ownership in ancient India.

From the three grants[3] of East Bengal, Pargiter accepts (i) indi-

[2] Nār. XVIII, 48.
[3] Manu VII, 130-132; Gaut. X 24-27, Āps. II, 10, 26, 9; Vishṇu III, 22-25. Baudh.—I. 10, 18, I; but Gaut. and Āps. give the different percentage of taxation (along with one-sixth of the produce).
[4] Raghu ii, 66; V-8; Śak. ii, p. 850; V. p. 911. Also Select Ins. p. 344 (L.13) and f.n.I; p. 348 L. 16, p. 352, f.n. 5; etc.
[5] Raghu XVII, 65.
[6] Legge, pp. 42-43.
[7] Appendix II.
[8] Vishṇu III, 55.
[9] Manu VIII, 39.
[10] Fleet, pp. 191, 196, 235, 243; E.I. XV. p. 41; J.A.S.B. (N.S.)—XX. p. 58.
[1] Nār. VII, 6-7.
[2] Gaut. X. 43; Vas. III, 13; Manu VIII, 35-39, Yāj. ii, 34-35, p. 640.
[3] I.A. 1910, p. 214.

vidual private ownership in plate "B", (ii) joint family ownership in plate "C", and (iii) joint-village ownership in plate "A". The right of private ownership, however, was subject to certain limitations, as the procedure adopted in the transfer of the lands indicates. The private owners did not sell their land direct to the purchaser, for the transfer was arranged through the leading men and effected by them. In every case the alienation of land was an act which took place before the leading men of the village. P. V. Kane partly supports his view. He states, "the ownership of arable land was in the cultivator himself and the king was only entitled to demand a certain share of the produce.... It may be conceded that land that was waste or not cultivated by anybody was deemed to belong to the king."[4]

Dr. R. G. Basak, on the other hand, is in favour of the corporate ownership of land by the villagers. If we assume that the lands belong to the State, "why could it not alienate them without the consent or approval of the people's representatives, the *mahattaras* and other business men (*vyavahārins*) of the province and the district, and sometimes even the common folk ? Why is it that Government did not take upon itself the whole responsibility of transferring to others by sale hitherto unassessed, untilled *khās*[5] land? One way of answering these questions may be that these lands belonged not to the State but to the whole village or the village-assemblies, and hence their transfer could not take place without the consent or approval of the latter".[6] It should also be noted that neither the State nor the village elders could sell lands singly. But the presence and permission of both were necessary for their disposal. Moreover, in one of these documents,[7] it is recorded in very clear terms that the one-sixth of the proceeds of the transactions will go to the state according to the law (*Parama-bhaṭṭāraka-pādānāmatra-dharmashaḍbhāga-lābhaḥ.....*). It thus seems to Basak that the remaining five-sixths of the price was to go to the village assemblies.[8] In his opinion all these facts undoubtedly show that land was owned by the people themselves and not by the state, and that the state could only receive taxes in return for the protection given to them. Here it might be objected that the *"dharma-shaḍbhāga"* received by the king is one-sixth of the religious merit accruing from the gift. But if this is the case the word *'dharma'* is used here in the sense of *puṇya*.

[4] Hist. of Dharma Vol. II, Part II, p. 868.
[5] In Bengal "Khās-land" means state-owned land.
[6] A.M.S.J. III, Part 2, pp. 486-487.
[7] Plate "A" of Dharmāditya—I.A. 1910, p. 195.
[8] A.M.S.J. Vol. III, Part 2, p. 487.

R. C. Majumdar and A. S. Altekar support Basak. According to Majumdar the village corporations "were practically the absolute proprietors of the village lands, including the fresh clearings, and were responsible for the total amount of rent to the Government. In case the owner of a plot of land failed to pay his share it became the property of the corporation, which had a right to dispose of it to realise the dues."[9] Similarly, Altekar suggests that "the ownership of the cultivable land vested in private individuals or families, and not in the state".[10]

The fact of alienation of land and the introduction of a new owner were evidently matters which concerned the whole village. So the consent of the village through its leading men was always indispensable, for these village elders knew well the title, the boundaries, etc. of the land in question. Moreover, disputes about landed property were always settled on the evidence and decision of the neighbours and the senior inhabitants of the locality.[1]

Even if we accept Basak's interpretation of *dharma-shaḍbhāga* in the plate No. "A" of Dharmāditya,[2] only one-sixth of the sale proceeds is recorded as being paid to the state treasury and the rest to the village fund. This undoubtedly indicates that this particular piece of land belonged to the village community, which received the major amount of the sale proceeds. The state, as absolute-owner, received one-sixth of it, for it had to sanction the transaction by attaching its seal, and had to allow the purchaser to donate it in perpetuity with certain exemptions and immunities.

Regarding the ownership of land, Jaiminī, the famous author of the *Mīmāṃsā-sūtras,* who belongs to a period a little earlier than ours, holds that in the Viśvajit sacrifice, in which the sacrificer has to donate everything that belongs to him, even an emperor cannot make a gift of the whole land of which he may be the ruler, for the earth is common to all.[3] Śabara-Svāmin, the commentator of the *Mīmāṃsā-Sūtras,* who presumably belongs to our period,[4] elaborates this by adding that others have as much right over the earth as the emperor. The emperor is entitled to a share of crops produced from the earth, for he protects them. But all other persons also walk on the earth, produce crops on it and get their subsistence from it, and so they also have rights over the earth. Therefore, there is no

[9] Corp. Life, p. 186.
[10] The Vākāṭaka-Gupta Age, p. 333.
[1] Nār. XI. 2; Bri. XIX—26; Manu VIII, 262.
[2] I.A. 1910, p. 195; A.M.S.J. III, Part 2, p. 487.
[3] "Na bhūmiḥ syātsarvānpratyaviśishṭtvāt".—Jaiminī—VI, 7, 3.
[4] Śabara-Bhāsya Vol. II, p. 1,178 on the Mīmāmsā sūtra—VI, 7, 3.

difference between the emperor and other persons as to rights over the earth.

Jaiminī and Śabara probably relied on the story of the famous Viśvakarman Bhauvana, who wanted to offer earth (lands) in his Rājasūya sacrifice. At this the earth protested and said,

"No man whatsoever ought to give me,
O Viśvakarman Bhauvana, thou hast been fain to give me ;
I shall plunge into the middle of the water ;
Vain was this thy compact with Kaśyapa".[5]

Here the verse clearly indicates that the king has no right to donate the lands, for he is not the owner. This might have been quite true in the Vedic period. But, as we have already seen, in our period the royal ownership on land was fully established. Jaiminī and Śabara were still trying to keep alive ideas of the later Vedic period, which had long since ceased to correspond to actual conditions.

Dr. K. P. Jayaswal[6] dogmatically propounds the ultimate private ownership of land in ancient India. But his theory has been ably refuted by Dr. U. N. Ghoshal and Dr. A. L. Basham.[6a] Ghoshal said, "Three out of the texts quoted by Dr. Jayaswal to disprove the king's ownership of the land do not support his case, but prove just the contrary. On the other hand, the evidence of the Mīmāmsā text (VI 7.3) which Dr. Jayaswal, in the same context quotes, along with the commentaries thereon, is no less decisive as to the denial of the king's proprietory right. There is nothing surprising in this contradiction. We have here evidently to deal with two distinct schools of legists, one advocating the king's right of ownership and the other based on the authoritative Mīmāmsā as emphatically denying the same. The seeker of truth need not indulge in the hasty generalisation, doubtless prompted by political prejudices, that agricultural land in India has always belonged to the Crown, nor should he consider it as 'sacrilege' to be told that the theory of the king's ownership of land was not altogether unknown to some schools of Hindu legal opinion".[7] Dr. L. D. Barnett also "whole heartedly accepts" his view.[8] As regards the usufructory right of the individual owner "most of the villagers were free peasants, and their land was to all intents and purposes their own, though the king claimed its ultimate ownership."[9] Exactly the

[5] Ait. Brāh-Adhyaya IV, Sec. VIII, 21 (XXXIX 7). p. 336.
Rig. Veda-Brāh. tr. Keith XXV.
[6] Hindu Polity, p. 343.
[6a] Historiography, pp. 158-166; The Wonder, p. 110.
[7] Ghoshal's Hist. p. 166.
[8] J.R.A.S. 1931, p. 166.
[9] The Wonder, p. 191.

same type of land tenureship existed in England from very early times.[10] Thus, in course of surveying the land law of the thirteenth century, Maitland remarks, "All land is held of the king. The person who has the right to live on the land and to cultivate it, is a tenant."[1]

III. Types of Land :

From the economic standpoint we may generally classify lands under the following groups, viz (i) cultivable land, (ii) waste land, (iii) habitable land, (iv) pasture land, (v) gardens and forest lands. But in the Amarakośa[2] twelve types of land are mentioned. They are: (a) *urvarā* (fertile), (b) *ūshara* (barren), (c) *maru* (desert), (d) *aprahata* (fallow), (e) *śādvala* (grassy land), (f) *paṅkila* (muddy land), (g) *jalaprāyamanupaṃ* (watery or wet land), (h) *kachchha* (land contiguous to water), (i) *śarkarā* (land full of pebbles and pieces of limestone), (j) *śakrāvati* (sandy), (k) *nadīmātṛika* (land watered from a river for cultivation), (l) *devamātṛika* (land watered by rain).

The term *kshetra* is very often recorded in our inscriptions.[3] It generally means a field. But Basak[4] and Pargiter[5] interpret *kshetra* as cultivable field. In the Amarakośa also it is defined as a special type of land capable of producing all kinds of crops.[6]

There were, however, two types of cultivable lands, viz., the dry land which required irrigation for its cultivation, and the wet land, which required less water. The latter type is referred to in the grant of Dharmāditya,[7] where the term *vāpa* precedes *kshetra*. Dr. Sircar interpreats it as a cultivable land. This term here may signify *vāpī*, which means a small tank, instead of *vāpa* in its derivative sense, meaning the field where seeds are sown.[8]

Other terms commonly met with in inscriptions are *khila*[9] and *aprahata*. Basak explains *khila* as untilled land. This is also supported by the Amarakośa.[10]

[10] Maitland's Eng. Constitutional Hist. pp. 23-39.
[1] Ibid. p. 24.
[2] Amar. I. 5-6, p. 70-71; I. 10-13, p. 72.
[3] (a) I.A. 1910 pl. "A", p. 195. Pl. "B", p. 200. Pl. "C", p. 204.
(b) The Damodarpur Pl. E.I. XV. Pl. "4", p. 139.
(c) The Dhanaidaha Pl. of Kum. I:—E.I. XVII—p. 347.
(d) E.I. XIX, p. 120.
[4] E.I. XVII, p. 348 and A.M.S.J. Vol. III, Pt. 2, p. 492.
[5] I.A. 1910, p. 205:—Text. p. 204.
[6] Amar. I. 5, p. 70.
[7] I.A. 1910, Pl. "A", p. 195.
[8] As in the case of *kulyavāpa, droṇavāpa*, etc. Select. Ins. p. 352, f.n. I.
[9] E.I. XV—of the Damodarpur C.P. Pl. "I", p. 130, Pl. "3", p. 136, Pl. "5" p. 143. The Baigram C.P. E.I. XXI, p. 81, p. 82; The Paharpur C.P. E.I XX, p. 62
[10] Amar. I. 6, p. 71.

According to Macdonell and Keith the terms *khila*[1] and *khilya*[2] seem to have the same meaning.[3] In the opinion of Roth[4] the terms signify waste land lying between cultivated fields. But he admits that this meaning does not suit a verse from the *Rig Veda*[5] in which it is stated that the god places the worshipper on an unbroken *khilya* (*abhinne khilye*), and he accordingly suggests the reading *"akhilya-bhinne"*, 'land broken by barren strips'. Pischel[6] thinks that the terms denote broad lands, which were used for the pasture land of the community, and were not broken up by cultivated fields. Oldenberg,[7] however, holds that these lands lay between cultivated fields, but need not be deemed to have been unfertile, as Roth thinks. The Nārada-Smṛiti, however, clearly states that a tract of land which has not been cultivated for a year is called half-waste (*ardha-khila*), but that which has not been under cultivation for three years is called waste (*khila*), while which has not been under cultivation for five years is no better than a forest.[8] Thus, *khila* land may be taken as a cultivable waste, which was cultivated previously but is now lying uncultivated for some reason or other.

Another term, *aprahata*,[9] is mostly used in conjunction with *khila*. Basak[10] holds that both *khila* and *aprahata* are synonymous terms signifying untilled land. But as both terms are recorded side by side in the same plate, there may have been some slight technical difference in meaning between them. According to Monier Williams, *aprahata* means untilled waste. Dr. Sircar defines it as "unreclaimed jungle land".[1] Thus, it appears that *khila* land is previously cultivated, but now left uncultivated; and *aprahata* land is hitherto untouched by the plough. Both terms can be taken together to mean cultivable waste land.

Dr. Saletore[2] mentions another type of land which is called *apradā*. He explains it as untilled land. But this suggestion does not hold good, if we read carefully the passages in the inscriptions

[1] A.V. VII, 115.4; Śatapatha Brāhamṇa, VIII 3.4. I—quoted from Vedic Index I, p. 216.
[2] R.V. VI, 28.2; X. 142.3—quoted Ibid.
[3] Vedic Index I. p. 216.
[4] St. Petersburg Dictionary, S.V.
[5] R.V. VI 28.2—quoted Ibid.
[6] Vedische Studien, 2, 205, quoted from Vedic Index I, p. 216.
[7] Ṛigveda—Noten, I, 385, 386—quoted Ibid.
[8] Nār. XI, 26.
[9] The Damodarpur Pl. E.I. XV—Pl. "I" p. 130, Pl. "5", p. 143
[10] E.I. XV—Pl. I p. 131, fn. 9; A.M.S.J. III Part 2, p. 480.
[1] Select Ins. I. p. 284, f.n. 10.
[2] Saletore's Gupta Age, p. 338.

where it is recorded.[3] Sometimes it is preceded by *aprahata-khila,*[4] sometimes by *akshaya* [*nīvi*],[5] *kshetra*[6] and *khila*[7] only. Thus it is mentioned along with three other types of land. Basak[8] explains it as land not given to anybody else before the transaction was effected—in other words unsettled land. This seems a better explanation of *aprada* for it literally means land which is not given away. Moreover, in our section of land tenure we shall see that this term is often connected with *dharma* (*apradā dharma*) and *akshayanīvi,* etc., which refer to the non-alienable tenure of the land in question and have nothing to do with the types of land. It appears that the term *apradā* was generally used in this sense, rather than that suggested by Basak and Saletore.

We have also reference to another type of land, called *vāstu,* or habitable land; and from our inscriptions[9] we know that plots of such land were donated for the purpose of building ground. Monier Williams explains the word as a site for a dwelling place. The term is popularly used for building sites even today in India. They are generally higher than the cultivated and cultivable lands.

There was also pasture land for the grazing of cattle. In the Khoh Plate of Maharāja Hastin[1] the term *gōpatha-saraḥ* is used. Dr. Fleet interprets[2] it as "the reeds grow by the cattle-path." This may indicate the pasture land of Nārada,[3] where the cow-herds used to tend their village cattle.

IV. Land Tenure :

Although our knowledge of the system of land tenure in the Gupta period is extremely vague and incomplete, we can throw some light on this subject from the scattered references in our inscriptions. These inscriptional documents are all land grants for religious purposes; and in these grants certain specific forms of land-tenure are sometimes recorded, such as (i) *nīvi-dharma*[4] (ii) *akshaya-nīvi-dharma*[5] or

[3] The Damodarpur Pl. E.I. XV; Pl. "I". p. 130, Pl. "2" p. 133. Pl. "3", p. 136, Pl. "4" p. 139.
[4] The Darmodarpur Pl. E.I. XV—p. 130, Pl. "I".
[5] Ibid. Plate "2", p. 133.
[6] Ibid. Plate "4", p. 139.
[7] Ibid, Plate "3", p. 136.
[8] Ibid. p. 140, fn. 2; A.M.S.J. III, Pt. 2, p. 480.
[9] The Damodarpur, Pl. E.I.—XV No. 4, p. 139. Pl. "5" p. 143.
The Baigram C.P., E.I. XXI, p. 81, p. 82.
The Paharpur C.P., E.I. XX, p. 62, p. 63.
[1] Fleet, p. 123.
[2] Fleet, p. 125.
[3] Nār. XI, 40.
[4] E.I.—XV, p. 130.
[5] E.I. XX, p. 63.

akshaya-nīvi[6] (iii) *nīvi-dharma-akshaya*[7] (iv) *aprada-dharma*[8] (v) *aprada-kshaya-nīvi-dharma* or *apradākshaya-nīvi-maryāda*[9] and (vi) *bhūmichhidranyaya.*[10]

The expressions *'nīvi'* and *'nīvi-dharma'* have been interpreted by Indologists in different ways. Jayaswal says[1] that *nīvi* is a technical term referring to Hindu secretarial practice, and meaning a despatch, document, record or file. (*Āyavyayo-nīvi*;[2] *āyavyayavīśuddhyā nīvi*;[3] *samudrapustabhāṇḍa-nīvikānāmekatra*;[4] *āyavyayanīvinā-magrāṇi*[5]). The expression, like our modern 'red-tape',[6] is derived from the physical feature 'the string', which ties round the despatch or returns. The nīvi of the inscriptions has, thus, to be interpreted as 'document' or 'despatch', and *'akshaya-nīvi'* as permanent document.[7] But Basak[8] has ably refuted Jayaswal's contention. Jayaswal has probably kept in view the meaning *'vastra-bandhanam';* as offered to this word by lexicographers, when he proposes that the word *nīvi* of the inscriptions is to be interpreted as document or despatch, and *akshaya-nīvi* as permanent document. The reason he sets forth for the acceptance of such an explanation is that the meaning 'despatch' is to be derived from the physical feature,—'the string', which was tied round the despatch or official returns in ancient days. In support of his view he refers his readers to some passages in the Arthaśāstra of Kauṭilya.[9] Basak points out that the most important meaning of the word, *nīvi,* as given by Amarakośa and Hemachandra, which would well suit the passages in the inscriptions and the Arthaśāstra, has escaped the notice of Jayaswal; otherwise he would never have proposed such an unsuitable meaning of the word. In the Amarakośa[10] we find that the word *nīvi* has been used as synonymous with *'paripaṇa',* and *mūladhana* (i.e. the capital or principal in sale and purchase and such other transactions).[1] Similarly Hemachandra[2] puts *mūladravya* as a synonym for *nīvi.* It

[6] E.I. XXI, p. 81.
[7] E.I. XVII, p. 347.
[8] E.I. XV, p. 143.
[9] E.I. XV, p. 133.
[10] Fleet p. 137, p. 166, p. 179.
[1] I.A. 1918, p. 51.
[2] Arth. II, 6, p. 61.
[3] Ibid, p. 62.
[4] Arth. II, 7, p. 64.
[5] Ibid, p. 64.
[6] I.A. 1918, p. 51.
[7] Ibid.
[8] I.A. 1919, p. 13.
[9] Arth. ii, 6-7; pp. 61-64.
[10] Amara, 9, 80, p. 218.
[1] I.A. 1919, p. 13—"kraya-vikrayādi-vyavahārī yanmūladhanaṃ-tasya"—Bhaṭṭojidikshita
[2] Hema. III 533 and 337—(Abhidhānachintāmani).

may be seen that wherever the word *nīvi* occurs in Indian inscriptions, it is to be explained as the fixed capital out of the interest (*vṛiddhi*) on which a particular expense is to be met.[3] Hence, to make a gift of land or money according to *nīvidharma* is to give it on condition that the endowment is to be maintained as perpetual. The donee can only spend the interest for the specified purposes. This interpretation is also corroborated by the evidence of Damodarpur Copper Plate,[4] where it is stated that the land should be enjoyed as long as the moon, the sun and the stars exist.

If we accept the interpretation of Jayaswal, we cannot explain the full implication of the inscription quoted above. Moreover, the passage from the Arthaśāstra referred to by Jayaswal can be cited in refutation of the meaning of *nīvi*, as suggested by him. It here means that which remains as a net balance[5] after consideration of all items of receipts (*āya*) and payment (*vyaya*). Again, if we accept the meaning proposed by him, we cannot explain the term in another passage in the same Arthaśāstra,[6] where Kauṭilya prescribes the various forms of punishment for scraping off, eating up and destroying the *nīvi*. A document certainly cannot be eaten up. That *nīvi* cannot mean despatch, can also be shown by a reference to another passage in the Arthaśāstra[7] where we read of the bringing together or verification of receipts (*āyam samānayet*) and of expenditure (*vyayam samānayet*).

Moreover, in the Damodarpur Copper Plate of A.D. 443-44 it is found that the Brāhmaṇ Karppaṭika applied to the local government for permission to purchase a fallow field at the rate prevalent in that locality. He further prayed that the field might be granted by him according to *nīvidharma* (.....*nīvi-dharmeṇa dātum eti*).[8]

Thus, taking all the above facts into consideration, it appears that an endowment of this type was to be maintained perpetually by the donee, but that he could make use of the income accruing to it. Its implication will be further clear, when we consider the other fiscal terms such as *akshaya-nīvi-dharma, apradākshaya-nīvi-dharma, apradākshaya-nīvi-maryāda,* and *nīvi-dharmakshaya.*

Here another term *akshaya* is added to *nīvi,* in order to give more emphasis to the permanancy of the endowment, for *akshaya* literally means 'indestructible', or 'perpetual'. This can better be taken as

[3] E.I. VIII. p. 82; XV. p. 130, Pl. I; XVII. p. 347.
[4] E. I. XV, p. 131, Pl. "I".
[5] I.A. 1919, p. 13.
[6] Arth. ii, 7, p. 65.
[7] Ibid, p. 64.
[8] E. I. XV Pl. I, p. 131.

an extension of the meaning of *nīvi-dharma*. The lands or money endowed according to this principle were to be treated as *akshaya-nīvi* where the original endowment was in no circumstances be destroyed or diminished. This is further indicated by the fact that, where *akshaya-nīvi-dharma* is mentioned, in some cases we have also the expression *"śaśvatā-chandrārkkā-tāraka"*, as in the Pāharpur[9] and the Baigram[1] Copper Plates. It thus indicates that the endowment was perpetual and could be possessed, theoretically, as long as sun, moon and stars exist.

We find references to this kind of tenureship from earlier and later inscriptions also.[2] In the Nasik cave inscription we find that Ushavadāta granted 3,000 *Kārshāpaṇas* as perpetual endowment (*akshaya-nīvi kāhāpaṇa-sahasrāṇi trīṇi*), which were invested in two parts of 2,000 and 1,000 *Karshāpaṇas* each in two weavers' guilds. It is explicitly mentioned there that these *Kārshāpaṇas* were not to be repaid (*apaḍidātavā*) but their interest only was to be enjoyed (*vadhi-bhojā*). In the passage in the Sāñchī Stone inscription of A.D. 450-451, it is also found that Upāsikā Harisvāminī made a grant of 12 *dīnāras* as *akshaya-nīvi* to the *saṃgha* in the great monastery of Kākanādaboṭa (*akshaya-nīvi dattā dīnāra dvādaśa*). There also it is clearly pointed out that a *bhikshu* is to be fed daily out of the interest that accrues to this endowment. Again in a passage of the Bihar inscription of Skandagupta we read of the grant of a village field (*grāma-kshettra*) as an *akshaya-nīvi* or a permanent endowment. In the Siyadoni inscription Dr. Keilhorn interprets this term as permanent endowment; and Dr. Bühler[3] and Dr. Barnett[4] also give the same interpretation.

Thus Jayaswal interprets it as "permanent document" quite wrongly, for if we accept his interpretation, we cannot properly explain the above passages in the inscriptions. So it should be taken to mean a permanent endowment, rather than a permanent document.

In certain cases it is seen that the above terms of tenureship are reversed. The new owner has got the full right to enjoy the endowment with the power of transfer, and sale. Here the term *Kshaya* (in

[9] E. I. XX, p. 63.
[1] E. I. XXI, p. 81.
[2] E. I. VIII, p. 82, The Nasik cave ins. of Ushavadāta.
(b) The Bihar Pil. of Skandagupta-Fleet, p. 50.
(c) The Sāñchī Pil. Ibid—p. 261.
(d) The Siyadoni Ins. E. I. I. p. 173, p. 174, p. 176.
(e) E. I. I. p. 187.
(f) The Vappaghosavata grant of Jayanāga—E. I. XVIII, p. 63.
[3] E. I. I. p. 185.
[4] E. I. XVIII, p. 63.

nīvidharma-kshaya) literally means destruction, and so the term *nīvidharma-kshaya* implies the destruction of the principle of *nīvi-dharma*. This is illustrated by the Dhanaidaha Copper Plate of Kumāragupta I.[5] It is here stated that a place named Kshudraka was in the possession of Śivaśarmā and Nāgaśarmā. It was afterwards donated to Vārāhasvāmin after reversing the process of *nīvi-dharma*. Here it seems that the former owners of the endowment either gave it up or left no heirs.

But Ghoshal interprets this in quite a different way and suggests the reading of *nīvidharma-kshayeṇa* as *nīvidharma-a-kshayeṇa*[6]. He then translates it as "according to the custom of non-destruction of *nīvi-dharma*". On the other hand, the Dhanaidaha copper plate seems to contradict this explanation, and quite clearly suggests that the principle of *nīvi-dharma* was reversed. Here we may mention the interpretation of Basak in support of our suggestion. "It seems from the use of the word *nīvidharma-kshayeṇa* that the intending purchaser wanted to buy land by destroying the condition of non-transferability of it, that is, to buy it with the future right of alienation".[7]

The next fiscal term which invites our attention is *apradādharma*. *Apradā* literally means *na-pradā*, i.e. either that which cannot be alienated, or which does not yield anything. Thus the grant of land according to *apradā-dharma* perhaps means that the donee has all the rights to enjoy such a property, but has no right to make further gift of the same and can only enjoy the interest and income that accrue from the endowed land. In other words, just like *nīvidharma*, the original endowment must not be diminished or destroyed, but must be preserved intact in perpetuity. We thus see that one Amṛitadeva endowed five *kulyavāpas* of *khila* land with *vāstu* according to the *apradā-dharma* to Bhagavān Svētavarāha-Svāmin, (i.e. the God Vishṇu). In future this grant must be respected by the administrating agents with due reverence to the gods.[8] This interpretation is also supported by Sircar,[9] and in this case *apradādharma* is synonymous with *akshaya-nīvi*.

We have already seen that *nīvi-dharma*, *akshayanīvi-dharma* and *apradādharma* indicate almost the same kind of tenureship of land. *Apradākshayanīvi* may have also a similar meaning, as we shall see presently; and *nīvidharmakshaya* implies a rather different type of

[5] E. I. XVII, p. 347.
[6] H.R.S. p. 199, f.n. 2.
[7] A.M.S.J. III, Pt. 2, p. 480.
[8] E. I. XV, Pl. 5, p. 143.
[9] Select Ins.—I. p. 284, f.n. 10. Acc. to Sircar, if pradā=gift; apradā=non-transferrable (or unsettled) property.

tenureship. Still we must not ignore the fact that these fiscal terms are not yet fully understood, and there may have some minute technical differences between them.

The term *apradākshayanīvi* occurs in the Damodarpur copper plate[1] of Kumāragupta of A.D. 448-49. Basak tries to interpret it in his own way. "It seems doubtful whether this applicant wanted the land on the nullification or continuation of the condition of non-transferability—the word *apradākshaya* admitting of an interpretation applicable both ways."[2] However, the interpretation of Ghoshal seems to be more suitable. As with *nīvi-dharma* the donee has the full right of perpetual enjoyment of the endowment, but has not the power to alienate or destroy or diminish it.[3]

Another important fiscal term is *bhūmichhidra-nyāya*. It occurs in a great many inscriptions[4] of our period and in later periods. There is a great deal of controversy among scholars on the interpretation of this technical term.

Dr. R. G. Bhandarkar[5] is of the opinion that *bhūmichhidranyāya* may have some reference to the circumstance that holes in the earth are not permanent, but are filled up in course of time. In this context he relates a story from the *Taittirīya Saṃhitā* (11.5) and from the *Bhāgavata* (VI. 9). Indra killed Viśvarūpa, the son of Tvashṭṛi, and then transferred his sin to the earth. But in consideration of her having taken it, he gave her a boon, by which all holes made in her would be filled up in time. The sense of the sentence then is that a grant is to last as long as the sun, the moon, etc., exist. As holes in the earth are filled up in time and the earth is whole again and so unchanged, so a grant should survive all revolutions and last unchanged for ever.

Bühler's interpretation is the further extension of the meaning made by Bhandarkar. The *bhūmichhidra-nyāya* is the "reasoning from the familiar instance of the ground and the cleft, or clefts therein, or the inference that the whole includes the parts, just as a piece of land includes the various clefts therein. If it is stated in this and other grants that a village or the like is given according to *bhūmichhidra-nyāya*, it means simply that it is made over with all its appurtenances, produce

[1] E.I., XV. p. 133.
[2] A.M.S.J. III, Part 2, p. 481.
[3] *Vide* H.R.S., p. 199. Also f.n. 4.
[4] (a) Fleet, pp. 137, 166, 179.
(b) Gauḍalekhamālā:—Khālimpur Pl. p. 16; Muṅger Pl. p. 39; Bhāgalpur Pl. p. 61; Bāngadh Pl. p. 97; Kamauli Pl. p. 135; Manahali Pl. p. 154.
(c) I.A. 1872, Vol. I, p. 46; 1875 pp. 104-107.
(d) E.I., XIX, p. 118, XI, p. 180, etc.
[5] I.A. 1872, Vol. I, p. 46. f.n.

and right, etc".[6] But he does not give us any reference from Sanskrit sources in support of his interpretation.

Moreover, there is a chapter in the Arthaśāstra of Kauṭilya, having the title of *bhūmichhidravidhānam.*[7] It treats mainly of uncultivable tracts, which are to be utilised as pasture land. They cannot be used as forests for *soma* plantation for religious purposes and should be handed over to Brāhmaṇs. They can be utilized as game forests, elephant forests and timber forests. The king is also enjoined to fix the boundaries of each of these. Thus, Kauṭilya seems to differentiate the *bhūmichhidra* land from the settled parts (*grāma* or *nagara*) including cultivable areas, which he treats is a separate chapter (*Janapadaniveśa*). Thus he makes a clear distinction between the two types of land; and the *bhūmichhidra* lands are uncultivable waste lands.

According to Yādavaprakāśa *"chhidra"* implies "lands which are fit for cultivation" (*bhūmichhidraṃ kṛishyayogyā*)[8]. Fleet followed this interpretation, and explained the term as "land fit to be ploughed or cultivated."[9] But Padmanath Bhattacharya[10] follows the former line of argument. He also cites one example here. In the copper plate grant of Vaidyadeva[1] we find *"bhūmichhidrañcha akiñcitkara-grāhyam"* which indicates a meaning in the above sense. He further believes that such land, when granted, should naturally be exempted from the assessment of revenue. And the expression, *'kṛishyayogyā'* is the compound of *'kṛishi'* and *'ayogyā'* which literally means the land unfit for cultivation. But Fleet in his Corpus volume has given us this mistaken interpretation.

Barnett follows the rendering of Yādavaprakāśa and Kauṭilya. He believes that *"bhūmichhidra-nyāya* would naturally mean the same condition as that under which tenants hold land in wilderness, forests, i.e. precario, with reservation of the king's right to eject them at will."[2] But Ghoshal extends the meaning of it a little further and in his opinion the term "implies the grant of full right of ownership, such as would be acquired by a person making fallow land cultivable for the first time."[3]

H.M. Bhandarkar more or less follows Barnett. *Bhūmichhidra-*

[6] I.A. 1875, p. 106. fn.
[7] Arth. ii. 2, pp. 49-50.
[8] Vaijayanti—Ed. by G. Oppert, pp. 124, 35.
[9] Fleet, p. 138, fn. 2.
[10] E.I.: XIX, p. 121, fn. 3.
[1] E.I. ii, p. 353.
[2] J.R.A.S. 1931, p. 165.
[3] H.R.S. p. 212, fn. 4.

nyāyena literally means "according to the principle of a hole in the earth." In his opinion this term occurs in some such phrase as *"Pūrvaprātta-devabrāhmadeyavarjjitaḥ bhūmichhidra-nyāyenāchandrārkkāṛiṇṇava-kshitisaritparvvatasamakālīnaḥ putrapautrānvayabhogya udakāti-sarggeṇa dharmadāyo nisṛishtaḥ*[4] *yataḥ"* in the inscriptions though sometimes without it, and it is to be connected grammatically with the word *"nisṛishtaḥ"* that follows. It appears from this that the terms signify the reservations from the gift. This word seems to reserve the right of the guarantor to the mineral resources and treasure-trove, etc. The right of the king to these is always urged against a gift unless it is expressly transferred. The word, therefore, may reserve this right in favour of the royal donor, in spite of the gift of the land. We must now add few words before drawing any conclusion.

The term *bhūmichhidra-nyāya* occurs in the Khoh copper plate of Śarvanātha,[5] the Māliyā copper plate of Dharasena,[6] the Alina copper plate of Śilāditya VII[7] and many other inscriptions of the later period. If we go carefully through these records, we see that most of the lands granted under this rule are cultivable lands. In some cases, a whole village[8] is granted under this tenureship, and a village must include all kinds of lands. In the earlier period this term may have indicated land unfit for cultivation, as we find in Kauṭilya, and it may have retained this meaning in some circles, as is attested by Yādavaprakāśa. But from the sources of the Gupta period it is quite impossible to agree with those who give the term this interpretation.

Moreover, as regards its implications for the system of land tenure, *bhūmichhidra-nyāya* very clearly indicates permanent land-tenureship, and the property endowed under this rule in freely handed down from generation to generation.[9]

From the above analyses it can also be said that tenureship like *nīvidharma* was prevalent in many parts of northern India at least from the time of the Guptas onwards. But the five other kinds of tenureship of land were probably mainly followed in the eastern part of the Gupta Empire, because they are very frequently mentioned in the inscriptions from Bengal.

V. Land Survey :

With the steady growth of agriculture and the general prosperity of the people under the Imperial Guptas, the demand for all types of

[4] E.I., XI, p. 177; Text p. 180.
[5] Fleet, p. 137.
[6] *Ibid.*, p. 166.
[7] Fleet, p. 179.
[8] Fleet, p. 135, p. 171.
[9] Fleet, p. 135, p. 171, p. 164 etc.

land was probably keenly felt. As a result of this great care was taken to maintain proper boundary marks and measures. It is evident that there were regular records of the boundaries of the villages and of the small plots of land within the villages.

In the Siwāni copper plate of Pravarasena II[10] the village named Brahmapūraka was carefully delimited by reference to the river which flowed through it, and the four villages on its boundaries.

The Poona plate of Prabhāvatīguptā[1] records a similar specification of the boundary of the granted land by four villages. Sometimes trenches of demarcation were maintained on all sides of the village.[2] In other cases boundary pillars were set up between two villages or between two plots of land.[3]

In order to give specific location sometimes detailed descriptions of the village boundaries in question and the neighbouring villages were recorded. Thus Mahārāja Hastin endowed certain Brāhmaṇs with the *agrahāra* of Korparika, and specified its area as follows: "The boundaries of it (are), on the east (the boundary-trench or village called) Korparagartā; on the north Animuktakākoṇaka, (and) a vṛika-tree (*baṭa*=pinus longifolia) of Vaṅgara, (and) a clump of *amrāta*-trees; on the west (the tank or village called) Nāgasari; (and) on the south, the Parichchhēda of Balavarman."[4]

On the other hand, the location and the boundaries of individual plots are even more minute and detailed in our records. They were apparently always carefully marked out and measured by the record-keepers and the influential men of the locality.[5] But in the case of villages such details are not always required, for their boundaries are more or less fixed by natural or artificial barrriers. Thus, we see that Vijayasena[6] donated to Vatsasvāmin land measuring eight *kulyavāpas* in area. It was situated in the village of Vettragarttā within the Vakkattaka *vīthī* of the Vardhamāna *bhukti*. It was bounded on the east and south by Godhagrama, on the north by the Vaṭavallaka *agrahāra* and on the west in part by Āmragarttikā. The plot was duly marked out by pegs (*kīlaka*) which are commonly used in the land survey of India to this day. Sometimes the four boundaries

[10] Fleet, p. 243.
[1] E.I. XV, p. 41.
[2] Fleet, p. 93.
[3] Fleet, p. 110.
[4] Fleet, p. 100.
[5] E.I.: XX, p. 59.
[6] The Mallasarul pl. of Vijayasena E.I. XXIII, p. 155.

of the land were skilfully demarcated by chaff, charcoal and pits[7] "(.....*chira-kāla-sthāyi-tushāṅgār-ādinā (ṃ)chihnais = chāturddiśo niyamya dāsyath....*)". The earlier law-giver Manu[8] states that the king should cause village boundaries to be delimited by marks of various kinds, of such material as is not corroded or decayed by contact with the earth. In order to attach more accuracy and permanency to the record of a land transaction sometimes the names and occupations of the respectable land-owners of the surrounding lands along with the exact measurement of plots were clearly mentioned. In A.D. 507-8, at the request of an official named Rudradatta, king Vainyagupta donated eleven *pāṭakas* of uncultivated land in five plots for some religious purpose.[9] The boundary marks of the first plot of land, measuring seven *pāṭakas* and nine *droṇavāpakas* adjacent to the *east* the border of the Gunikāgrahāra village and the field of the carpenter, Vishṇu, to the *south,* the field of Miduvilala and the field belonging the Royal *Vihāra,* to the *west,* the Surinasirampurnneka field, to the *north,* the tank of Dosibhoga and the boundaries of the fields of Vampiyaka and Ādityabandhu. The other four plots of land which changed hands in this transaction were demarcated with similar precision.

The demand for the land was so high that it was manifested through boundary disputes, despite this careful demarcation. For that reason Bṛihaspati and Nārada enacted laws and regulations to safeguard the interest of the land-holders. According to Bṛihaspati, the determination of boundaries should be settled at the time of any change and it should be marked by visible and invisible signs to dispel doubt. Wells, tanks, pools, large trees, gardens, temples, mounds, channels, the course of a river, reeds, shrubs or piles of stones, ant-hills, artificial mounds, slopes, hills and the like generally served the purpose of the boundaries.[10] Bṛihaspati is even more explicit in suggesting the permanent boundary marks. Dry cowdung, bones, chaff, charcoal, stones, potsherds, sand, bricks, cows' tails, cotton seeds and ashes should be placed in vessels and one should keep them underground at the extremities of the boundary; and one should take care to point them out to youths and infants. These youths and infants again should show them to their own children after having grown old. By knowledge thus passed from one generation to another doubts regarding boundaries may be obviated.[1] This practice is followed faithfully even today in India.

[7] E.I. XXI: p. 82.
[8] Manu—VIII, pp. 250-51.
[9] I.H.Q., VI, pp. 55-56, (1930).
[10] Bṛi. XIX, 7-9 and Nār. XI, 4-5.
[1] Bṛi. XIX, 20-22.

In disputes regarding a field or a house, the decision lay with the neighbours, the inhabitants of the same town or village, the other members of the same community, and the senior inhabitants of the district. They were to determine the boundary and to indicate the marks deposited underground as evidence.[2] Nārada lays down that the boundary should not be fixed by one man single-handed, though he be a reliable person. This business should be entrusted to a plurality of persons, because it is an affair of importance.[3] But Bṛihaspati is even more liberal in his views. In default of witnesses and signs even a single man, agreeable to both parties, might fix the boundaries, wearing a red garland of flowers and a red cloak, putting earth on his head, adhering to truth and having kept a fast.[4] These practices with certain modifications are followed to this day in the villages of India.

Thus from the Gupta inscriptions it is quite clear that the state maintained a regular department for land-survey, land measurement and land revenue; this was staffed by *pustapālas,* whose literal function was record-keeping. They kept careful record of all land transactions and were mainly responsible for the fiscal administration, at least in Bengal, and probably elsewhere. When a land transaction was made in Bengal, they were referred to certify that the land was transferrable, and their decision was always accepted as final.[5]

VI. Land Measurement:

Though the Smṛiti literature and other sources of both earlier and later date give detailed tables of weights and measures, we have no such tables which can be certainly ascribed to the Gupta period. The data given in the *Nārada Dharmaśāstra,* which is generally believed to have been written about this time, however, show that the smallest unit of practical linear measure was the *aṅgula*[6], conventionally the breadth of the mid-joint of the middle finger of an adult man[7], or about $\frac{3}{4}$ inch.

Several Gupta inscriptions mention the *hasta,* or cubic. This was not the length of the hand, as the etymology would suggest, but was conventionally the distance from the tip of the elbow to the middle finger. The *hasta,* or the synonymous *kara,* is said in more than one source to be equal to 24 *aṅgulas*[8], and was thus equal to approximately 18 inches. It is still a popular measure in many parts of India.

[2] Nār. XI, 2; Bṛi. XIX 26, 31.
[3] Nār. XI. 9.
[4] Bṛi. XIX. 33-34.
[5] Appendix II.
[6] *Nār.*, i, 285, 286, 307.
[7] Bose's Economy, ii, p. 279.
[8] *Mārkaṇḍeya Purāṇa,* xlix, 37 ff., *Arth.*, ii, 20, *Śukra,* i, 387—414.

In the three copper plate grants of Dharmāditya and Gopacandra it is stated that the transferred land was measured by the *hasta* of 'the upright Śivachandra'.[9] Elsewhere a similar grant refers to the fact that land was measured according to the length of the *hasta* of a certain Darvīkarma.[10] It is evident that Śivachandra and Darvīkarma were not record keepers, for these officials are mentioned separately in each case. They were probably surveyors or local officers in some way connected with the fiscal department of the government, for it is clear from the grants of Dharmāditya and Gopachandra that only the *hasta* of Śivachandra was accepted as standard in the locality. It seems hardly likely, in such a developed society, that the actual forearm of the officer was the unit of measurement. Śivachandra and Darvīkarma were probably the keepers of measuring rods recognized locally as standard, and responsible for all official land measurement in the district.

The next larger unit of measurement was the *dhanu* (bow) or *daṇḍa* (rod). According to Nārada the *dhanu* varied in length from 105 to 107 *aṅgulas*;[1] thus its average length was 6 feet, 7½ inches. The *Arthaśāstra, Mārkaṇḍeya Purāṇa,* and *Śukra-nītisāra*,[2] however, all state that the *daṇḍa* is equal to 4 *hastas* or 96 *aṅgulas,* that is approximately 6 feet. This seems a likelier standard than the anomalous length given by Nārada, which is probably that of an actual bow, and not that of a cenventional measurement. It seems probable that the *daṇḍa* or *dhanu* was the same as the *nala* (reed) often mentioned in Gupta inscriptions, though this is by no means certain.

No fully satisfactory explanation of the strange term *ashṭaka-navaka-nalābhyām apaviñchchhya*[3] ('having measured by reed of eight and nine'), which occurs in several Gupta inscriptions of Bengal, has yet been given. Dikshit[4] states that the present practice in Bengal and Assam is to measure the land by *nalas* or reeds of a definite length in cubits, differing in different localities, and suggests that the terms *shaṭka, ashṭaka* and *navaka* compounded with the word *nala* imply rods of 6, 8 and 9 cubits respectively. This view is supported by D. C. Sircar.[5]

Pargiter,[6] on the other hand, suggested that in the past the number of cubits constituting a *nala* varied widely from 5 to 16, and

[9] *I. A.,* 1910, pp. 195, 201, 204.
[10] *E. I.,* xxi, p. 82.
[1] *Nār.,* i, 307.
[2] As f.n. 8 above.
[3] *I. A.,* 1910, pp. 193, 215. Pls. A.B.C.; E. I. XV. Pl. 3, p. 136; XVII. p. 347; XXI. p. 82.
[4] *E I.,* XX. p. 63, f.n. 2.
[5] *Select Ins.* I, p. 349, f.n. 2 and elsewhere.
[6] *I. A.* 1910, p. 215.

explained the term *ashṭaka-navaka-nalābhyām apaviñchchhya* as referring to a plot 8 reeds in breadth by 9 in length. He further believed that this area constituted the *kulyavāpa,* the measure of area which we consider below. This interpretation, we believe, is very unlikely, since the dual termination of the word *nalābhyām* implies that only two *nalas* are referred to, one qualified as *ashṭaka* and the other as *navaka.* Basak,[7] however, substantially agrees with Pargiter, believing that the phrase refers to the measuring off of rectangular plots of land using only one rod, each plot being 8 *nalas* in breadth by 9 in length. R. N. Saletore[8] and B. C. Sen[9] hold a slightly different opinion. "Two *nalas*" the latter writes, "were used for the measurement of length and breadth respectively, one measuring nine cubits and the other eight. The element *ashṭaka* as well as *navaka* in the compound can well be taken as representing the size of the *nala* employed in each case, and, the custom of measuring by *hasta*-standard having been shown in some inscriptions to have been current, it is evident that, whether the compound is preceded by *hasta* or not, the same practice must have been followed throughout. Taking the average measurement of the *hasta* to be 19 inches the unit represented by the *ashṭaka-* and *navaka-nalas* will correspond to an oblong area of $19\times8\times19\times9=25{,}992$ square inches or $180\frac{1}{2}$ square feet". This interpretation, though perhaps more probable than Pargiter's, fails to satisfy us. Even today the practice of measuring land by rods is quite common in Indian villages, but normally only one rod is used for this purpose. To employ one for measuring length and another for measuring breadth would be most confusing and inconvenient. We believe that in Gupta times, as at the present day, land was measured by only one rod. Equally improbable on practical grounds is the alternative interpretation, that the phrase refers to the measurement of the land in rectangular plots, of which the breadth is eight times and the length nine times the length of a single standard rod, for it is on the face of it most unlikely that the total area of a large plot of arable land should be arrived at by measuring it off thus in large squarish rectangles. The meaning of the strange term still eludes us, and we would rather confess our ignorance than force upon it an interpretation which can scarcely have any relation to practical field-surveying.

In the eastern part of the Gupta Empire a peculiar system of land measurement was common, with units known as *āḍhavāpa, droṇavāpa,*

[7] *A. M. S. J.* iii. p. 494; Select Ins. p. 325, n. 7.

[8] *Saletore's Gupta Age,* p. 357.

[9] Dr. Sen, p. 520.

and *kulyavāpa*. There is some controversy on the interpretation of these measurements.

Kullūka Bhaṭṭa, the commentator on Manu, states that the *kulya* or *kula* is as much land as can be cultivated by two ploughs.[10] But the word *kulya* also means a winnowing basket, or a measure of 8 *droṇas*, while *vāpa* means the act of scattering or sowing. Thus the term *kulyavāpa* would literally mean that area of land which can be sown by 8 *droṇas* of seed. Pargiter, as we have seen, explains the term in a different way, as an area of 8 *nalas* in breadth by 9 in length, and, relying on his own claim that the *nala* might contain as many as 16 *hastas* or cubits of 19 inches each, suggests that the area of the *kulyavāpa* was a little more than one acre, or 3 *bighās*.[11] Possibly relying on Pargiter, Altekar[1] states that the *kulyavāpa* was slightly larger than an acre. But this interpretation cannot be accepted for two reasons. Firstly the expression *ashṭaka-navaka-nalābhyām apaviñchchhya* occurs also with other measurements, such as the *pravarttavāpa*, the *droṇavāpa*, and the *āḍhavāpa*,[2] and thus there is no good ground for holding that the *kulyavāpa* had any relation to an area of 9 by 8 *nalas*. Moreover the fifth of the Damodarpur copperplates records that one *kulyavāpa* of land was purchased to the north of *Pañchakulyavāpaka*,[3] apparently a village or settlement comprising 5 *kulyavāpas of land*. Thus, if Pargiter is right and a *kulyavāpa* is little more than an acre, the area of the whole village, including its arable land, would be only about 5 acres, which seems scarcely possible.

The most thorough investigation of the problem has been made by D. C. Sircar,[4] whose arguments we summarize below. Basing his view on the data of Sir W. W. Hunter,[5] he points out that since its introduction during the middle ages the unit known as *bighā*, together with the subdivisions, has gradually ousted the older units from many parts of Bengal. Nevertheless the *kulavāy* (ancient *kulyavāpa*), *doṇ* (ancient *droṇavāpa*), and *āṛihā* (ancient *āḍhavāpa*) are still locally known in many parts of Bengal and the adjoining districts of western Assam. Unfortunately all three measurements do not exist together in the same locality, and their old relationships, which, as we shall see, can be inferred with practical certainty, are totally forgotten. Moreover the same word may represent widely differing units of area in

[10] To *Manu*, vii, 119. Institutes of Manu.....etc. Vol. I, p. 557 (Cal. 1830).
[11] *I. A.*, 1910, p. 216.
[1] *Vākāṭaka-Gupta*, p. 360 (1946).
[2] *E. I.*, xx, p. 62.
[3] *E. I.*, xv., p. 143, pl. 5.
[4] *Bhārata Kau.*, vol. ii., pp. 943 ff.
[5] *Statis. Acc. of Bengal*, vol. vi., p. 164.

different localities. Thus these measurements are of no help in arriving at the areas of the Gupta *kulyavāpa, droṇavāpa, and āḍhavāpa.*

Sircar found that the most promising means of arriving at the approximate areas of these measurements was to start from their etymology. Evidently the terms originally implied the area of land required for the cultivation of seed grain measuring one *kulya, droṇa* and *āḍha* respectively.

On the basis of Kullūka, Raghunanda, Pañcānana Tarkaratna, and other medieval Bengali authorities on Smṛiti, Sircar gives the following table of measures of capacity current in early Bengal :

8 *mushṭis* or handfuls	=	1 *kuñchi*
8 *kuñchis* (64 handfuls)	=	1 *pushkala*
4 *pushkalas* (256 handfuls)	=	1 *āḍhaka*
4 *āḍhakas* (1024 handfuls)	=	1 *droṇa*
8 *droṇas* (8192 handfuls)	=	1 *kulya*

That these measures were used for rice, the staple cereal crop of Bengal, is evident from the fact that Kullūka mentions them in his explanation of the expression *dhānya-droṇa* ('a droṇa of corn') in Manu.[6] It is quite evident that the proportions of the *kulyavāpa, droṇavāpa,* and *āḍhavāpa* must correspond to those of the *kulya, droṇa* and *āḍhaka,* and thus we have the equation: 1 *kulyavāpa* = 8 *droṇavāpas* = 32 *āḍhavāpas.*

Sircar further points out that, according to the lexicon *Śabdakalpadruma,* which was written in Bengal, the *āḍhaka* is defined as 'the quarterpart of a *droṇa* . . . in practice 16 or 20 seers'.[7] It seems evident to us that this is the rough equation of a measure of various food grains with its approximate weight, which might vary within the limits specified according to the type of grain measured. Thus the weight of the *kulya* might vary from 12 maunds, 32 seers to 16 maunds. We have made further efforts at arriving at the approximate weight of a *kulya* of rice by actual experimental measurement by handfuls. After a large number of tests, using Indian rice measured out by what seems a hand of average size, we found that a seer contained 16 or 17 handfuls. Thus a *kulya* of 8192 handfuls would weigh a little over 12 maunds, and hence it would seem probable that the lower figure of 16 seers is more likely to approximate to the weight of an *āḍhaka* of rice than the higher.

In many parts of modern Bengal seedling rice is transplanted, and Kālidāsa's *Raghuvaṃśa*[8] shows that this was the case in Gupta times.

[6] To *Manu,* vii, 126.

[7] *Āḍhakaḥ—"droṇa-chaturtha-bhāgaḥ . . . vyavahāre shoḍaśa sero viṃśati sero vā." Śabdakalpadruma* (Calcutta, Saka 1743), vol. i, p. 249.

[8] iv, 36-7.

Hence Sircar assumes that the area of the *kulyavāpa* was that required for the transplantation of the seedlings produced from one *kulya* of seed. In the district of Faridpur, not far from the place of origin of some of the most important Gupta copper-plates, one maund of rice is required to sow 3 *bighās,* while seedlings grown from this require 10 *bighās* for planting.[9] Thus the seedlings from one *kulya* of seed would require from 128 to 160 *bighās* of land for their transplantation. This, Sircar believes, is the approximate area of the Gupta *kulyavāpa.* He considers the alternative interpretation, that the area of the *kulyavāpa* approximately equals the area covered by one *kulya* of directly sown seed, but rejects it, on the basis of the statement of the *Raghuvaṃśa.* But both the systems of sowing seeds direct to the soil and of transplanting of seedlings are the prevalent system at the present day. We suggest, however, that the question of whether or not the Gupta peasants transplanted their rice seedlings has little relevance to the problem, and we have reason to believe that the Gupta system of land-measurement was based on the area of seed sown, and not on that of seedlings transplanted.

Besides the three measures which we have studied, another measure, known as *pāṭaka,* was prevalent in Bengal at the same period. In the Gunaigarh plate of Vainyagupta, dated A.D. 507-8, 11 *pāṭakas* of land are referred to as having been donated in a single village.[10] The same measure is reported in the Ashrafpur plate of Devakhaḍga,[1] the Tippera plate of Lokanātha,[2] and in some Pāla and Sena records. The five plates of the Gunaigarh grant refer to the donation of separate areas of land as follows :

Plate 1	7	*pāṭakas* and 9	*droṇavāpas*
,, 2		28	,,
,, 3		23	,,
,, 4		30	,,
,, 5	$1\frac{3}{4}$	,,	
Total :	$8\frac{3}{4}$	*pāṭakas* and 90	*droṇavāpas.*

Further, after defining the separate plots of donated land, the grant gives their total area as 11 *pāṭakas.*

Thus we have the equation :

$(11 - 8\frac{3}{4})$ *pāṭakas* $= 90$ *droṇavāpas*

Therefore 1 *pāṭaka* $= 90 \times \frac{4}{9} = 40$ *droṇavāpas*[3].

[9] Sircar, *loc. cit.,* pp. 947-8.
[10] *I. H. Q.,* 1930, pp. 45-60.
[1] *M. A. S. B.,* 1905, p. 87.
[2] *E. I.,* xv, p. 308.
[3] The area of the *pāṭaka* was wrongly calculated by G. M. Lascar as equal to 50 *droṇavāpas* (*M.A.S.B.,* 1905, p. 87).

But we have seen that 8 *droṇavāpas* equal one *kulyavāpa*. Thus one *pāṭaka* equals 5 *kulyavāpas*. Hence, on the basis of Sircar's estimate of the size of the *kulyavāpa*, one *pāṭaka* would be equal to from 640 to 800 *bighās*. This, however, seems most improbable, for, if these calculations are right, the 11 *pāṭakas* of land granted in a single village must have measured between 7040 and 8800 *bighās*. As well as the granted area the village must have contained a considerable though unspecified area of ungranted land. Such an enormous village is inconceivable to anyone who has personal knowledge of the Bengal countryside.

If, on the other hand, we accept the second suggestion, that the area of the *kulyavāpa* is based on the area of seed sown, rather than on that of transplanted seedlings, the *pāṭaka* will be equal to approximately $\frac{3}{10}$ of the former estimate, that is to from 192 to 240 *bighās*, and the 11 *pāṭakas* granted to from 2112 to 2640 *bighās*. On this estimate the area is still very large, but not impossibly so. Moreover, since the root *vap* means 'to sow' or 'to scatter', and not 'to transplant', this interpretation is much closer to the obvious meaning of the word.

We summarize our efforts at interpreting the data referring to land measurement in the inscriptions of Bengal of the Gupta period in the following table :

		bighās	*acres*	*hectares*
	1 *āḍhavāpa* =	1.2-1.5	.45-.56	.18-.22
4 *āḍhavāpas*	= 1 *droṇavāpa* =	4.8-6	1.8-2.2	.73-.89
8 *droṇāvāpasa*	= 1 *kulyavāpa* =	38.4-48	14.4-17.6	5.84-7.1
5 *kulyavāpas*	= 1 *pāṭaka* =	192-240	72-88	29.2-35.5

For reasons which we have stated, we believe that the lower figures in each case are most likely to be correct.

We conclude this study with a brief consideration of certain other measurements, the area of which cannot be specified with any degree of certainly. An inscription of East Bengal mentions the *pravarttavāpa*,[4] a term which does not occur elsewhere, as far as we know, in any other epigraphic or literary source. Owing to the bad condition of the plate the inscription in question is partly illegible, but it is clear that the text refers to the purchase of an uncertain area of waste land measured by the *kulyavāpa*, together with one *pravarttavāpa;* for the whole of the land purchased two *dīnāras* was paid. It is known that the customary price of waste but cultivable land in the region was four *dīnāras* per *kulyavāpa*, and hence Pargiter points out that the area of the *pravarttavāpa* must have been less than half a *kulyavāpa*.[5] Evidently

[4] *I. A.*, 1910, p. 201.
[5] *I. A.*, 1910, p. 202, f.n. 17.

we can be more precise than this and say that the *pravarttavāpa* was much smaller than the *kulyavāpa,* since an appreciable fraction of a *kulyavāpa,* together with one *pravarttavāpa,* cost only the price of half a *kulyavāpa.* We suggest that the *pravarttavāpa* was a fraction, perhaps a quarter, of the *āḍhavāpa,* for it was evidently one of the same series of measurements.

In the Vākāṭaka and Maitraka kingdoms a measurement called *pādāvarta* was in common use, and is referred to in connexion with the areas of fields and tanks. Thus Mahārāja Dhruvasena is recorded as having granted 300 *pādāvartas* of cultivable land and two small tanks (*vāpi*) measuring 40 and 20 *pādāvartas* respectively in the village of Haryaṅka to a Brāhmaṇa named Dhammila.[6] Moreover in three plates of the same king we read of the donation of four plots of 140,100,50, and 30 *pādāvartas* of land together with two small tanks measuring 16 and 12 *pādāvartas* respectively.[7] A further inscription records the grant by Dharasena II of five plots measuring 120,100,90,15, and 10 *pādāvartas* respectively, with a tank measuring 28 *pādāvartas.*[8] As a linear measure the *pādā* (foot) is equivalent to 12 *aṅgulas* or half a *hasta,* that is 9 inches, and it might be suggested that the *pādāvarta* was a square *pāda.* This possibility was considered by Fleet, but rejected, since a plot as small as 10 *pādāvartas* would be hardly worth donating on this hypothesis. Fleet suggested that a term such as 100 *pādāvartas* implied an area measuring 100 *pādas* each way,[9] but even this assumption is difficult, since thus a plot of 10 *pādāvarta* would measure only $7\frac{1}{2}$ feet square, an area hardly worth granting to a worthy recipient. It seems that the *pādāvarta* was appreciably larger than a foot; if we interpret it etymologically as 'a turning of the feet' it might imply a square measuring a pace on each side, or approximately 9 square feet; if we allow the further doubtful hypothesis that the *pādāvartas* are measurements in paces along one side of an approximately square plot we arrive at areas not impossibly small.

Another land measure known as *bhūmi* ('land') is referred to in the Chammak plate of Pravarasena II, which records the donation of the village of Chārmāṅka, consisting of 800 *bhūmis,* to a corporation of 1000 Brāhmaṇas.[10] The village must have been a large one, with much cultivable land, but probably the area of the *bhūmi* was quite small, perhaps appreciably less than an acre.

[6] *E. I.,* iii, pp. 320-1.
[7] *E. I.,* xi, pp. 104-14.
[8] Fleet, pp. 164-71.
[9] *Ibid.,* p. 170, f.n. 4.
[10] *Fleet,* p. 241.

It is clear from these western Indian measurements that the systems used varied widely in different parts of northern India, even in the best days of the Gupta empire. But there were evidently local standards which were adhered to by government officers. Probably the imperial authority did not try to enforce a single standard measure, or, if it did try, did not succeed in doing so. Until the British period there was no standard system of land measurement in northern India, although Akbar tried to introduce one,[1] and even today local customary measurements are still sometimes used.

VII. Land Grants:

So long as feelings of piety and benevolence have some influence on the human mind, they must find expression in religious and charitable gifts. In India we find references to land grants from a very early period. Thus in the earlier period the Arthaśāstra[2] refers to land grants to (i) Brāhmaṇs with the right of alienation, (ii) crown officers for expenses of public charities, (iii) Queen and princes, (iv) officials, in usufruct, for payment of services, (v) as military fiefs on condition of supplying troops. In the Sātavāhana period lands were also granted by the members of the royal family to religious bodies.[3]

In the Gupta period, however, most of the lands of which grants have survived were endowed either to Brāhmaṇs or to the Buddhist or Jaina *Saṃghas*. Most of the donations were made either by the King, the Queen, or their officials, or by private individuals or guilds for religious merit. We have also one record of the donation of land by a Brāhmaṇ to another Brāhmaṇ. Vāsudevasvāmin, a Brāhmaṇ of Vārakamdṇḍala, donated a piece of land to the virtuous Brāhmaṇ, Somasvāmin, for his own religious merit and for that of his parents.[4] Probably Vāsudevasvāmin was a secular Brāhmaṇ, having no knowledge of Vedic learning.

In some cases, the lands were first purchased and then granted to religious establishments. A Dāmodarpur Copper Plate Grant of the reign of Budhagupta records the purchase of land with the object of giving a dwelling place to some Brāhmaṇs.[5] The three land-grants from East Bengal of the time of Dharmāditya and Gopachandra record a similar procedure.[6] We have also record of kings donating land to

[1] Moreland:—From Akbar to Aurangzab (1923) p. 337.
[2] Arth. ii. 1.
[3] Select Ins. I—Ins. of the Sātavāhana, Nahapāna and Chashṭana family, p. 157-205 (many of them are of that type).
[4] I.A. 1910, pp. 200-201.
[5] E.I. XV, Pt. iii. pp. 135-136.
[6] I.A. 1910. pp. 193-216.

religious bodies at the request of the high officials of the State. In the Gunaigarh plate, Vainyagupta himself endowed land to the *Saṃgha* belonging to the *Mahāyāna* sect at the request of Mahārāja Rudradatta.[7] In many cases the king himself donates lands for some religious purpose. The Spurious Gaya and Nālandā copper plates of Samudragupta,[8] the Bihar Stone pillar inscription of Skandagupta,[9] the Bhitari Stone pillar inscription of Skandagupta[10] and some others are the instances of such royal donations. Sometimes the queen granted lands for religious purposes,[1] The foundatory kings of the Guptas also donated lands for the same purpose.[2] Sometimes the royal official donated lands, for instance, Amrakārdava, an official of Chandragupta II, who gave lands at the village of Iśvaravāsaka to the *Ārya Saṃgha* of Kākanādaboṭa[3] (Sāñchī). We have also instances of individual citizens who granted land for religious purposes.[4] Moreover, from the study of later inscriptions we see that grants were made by donors of similar status throughout the Hindu period.

There were certain general procedures in granted lands, and apparently at the time of the grant certain ceremonials took place. The declaration of the gift was made known to the headman of the villages, Brāhmaṇs, reputable householders (*kuṭumbikas*), royal officials, and so on, as we see from the Riddhapur plate of the Vākāṭaka queen Prabhāvatīguptā and from the Khoh Copper plate of Mahārāja Śarvanātha and others.[5] These careful formalities before the responsible village elders, citizens and officials were obviously intended to ensure that no injustice was done during the transaction.[6] It was also apparently necessary that the consent of the officials and non-official village-elders to the grant should be unanimous, so they at first examined the application of the donor and then handed the matter over to the local record-keepers for further investigation.[7] Lastly, like other Hindu rituals, the donation ceremony was finally completed with a libation of water.[8]

Lands were sometimes granted for certain specific purposes and

[7] I.H.Q. VI. pp. 53-55.
[8] Fleet, p. 254; E.I. XXV. p. 50.
[9] Fleet. p. 47.
[10] Fleet. p. 52.
[1] J.A.S.B. (N.S.) XX. p. 58. E.I. XV. p. 41.
[2] Fleet. pp. 93, 100, 106, 112, 117, 121, 125, etc.
[3] Fleet, p. 29.
[4] Plate 2 of Dharmāditya—I.A. 1910. p. 199.
[5] Fleet. pp. 121, 125, 129, 135, 164 etc.
[6] E.I. XV. p. 130; I.A. 1910, p. 193 etc.
[7] Appendix ii.
[8] Fleet. pp. 164, 171, 191, 235 & 243.

sometimes simply to increase the religious merit of the donors.[9] Lands were also donated by kings to increase their religious merit, strength, victory and dominion, as we see in the Chammak Copper Plate[10] and the Siwani Copper Plate[1] of Mahārāja Pravarasena II. They might be given to defray the expenses of worshipping gods and goddesses.[2] They were also given for the maintenance of the *bali* (i.e. flowers, sandal paste, etc.), *chāru* (rice or other corns boiled with milk and mixed with clarified butter), *sattra* (alms-house), perfumes, incense, garlands and lamps, and for the repair of temples.[3] Moreover, for feeding *bhikshus* and lighting lamps, lands were permanently donated, as we see in the Sāñchī Stone inscriptions of Chandragupta II.[4]

The fiscal and other exemptions and immunities are specially recorded in the grants. In most of the Gupta and post-Gupta inscriptions the same general conditions are repeated again and again. So we need cite only one example here to represent the whole—the Chammak Copper Plate of Mahārāja Pravarasona II,[5] which donates land to one thousand Brāhmaṇs. This grant read thus, ".....Be it known to you that, in order to increase our religion and life and strength and victory and dominion, (and) for the sake of (our) welfare in this world and in the next, (and generally) for our benefit, this (village) is granted, in (our) victorious office of justice, as a grant not previously made, with libations of water..... It is not to pay taxes; it is not to be entered by the regular troops or by the umbrella-bearers; it does not carry with it(the right to) cows and bulls in succession of production, or to the abundance of flowers and milk, or to the pasturage, hides, and charcoal, or to the mines for the purchase of salt in a moist state; it is entirely free from (all obligations of) forced labour; it carries with it hidden treasures and deposits, and the *kḷipta* and *upakḷipta*, it is (to be enjoyed) for the same time with the moon and the sun; (and) it is to follow (the succession of) sons and sons' sons. No hindrance should be caused by any one to those who enjoy it. It should be protected and increased by all (possible) means. And whosoever, disregarding this charter, shall give, or cause to be given, even slight vexation, we will inflict on him punishment, together with a fine, when he is denounced by a Brāhmaṇ. And this condition of the charter should be maintained by the Brāhmaṇs and by (future) lords;

[9] Fleet. pp. 93, 100, 106, 117, 254; E.I. XXV. p. 50.
[10] Fleet. p. 235.
[1] Ibid. p. 243.
[2] Fleet. p. 135.
[3] Fleet. pp. 112, 121, 125, 129, 164.
[4] Fleet. p. 29.
[5] Fleet. pp. 241-242.

namely (the enjoyment of this grant is to belong to the Brāhmaṇs) for the same time with the moon and the sun, provided that they commit no treason against the kingdom, consisting of seven constituent parts, of (successive) kings; that they are not slayers of Brāhmaṇs and are not thieves, adulterers, poisoners of kings, etc.; that they do not wage war; (and) that they do no wrong to other villagers. But, if they act otherwise, or assent (to such acts), the king will commit no theft of taking the land away....." Thus, for the first time, from the Gupta inscriptions we hear a note of warning that the donees should act justly towards both villagers and the state. Moreover, the taxes and other dues from which the donee was to be exempted, those reserved by the king, and those transferred to him, were all recorded in detail. Again, the villagers were asked to pay the customary tributes and royalties to the donee, and to render him all obedience. The Khoh copper plate of Śarvanātha states thus, ".....You yourself shall render to these persons the offerings of the tribute of the customary royalties, taxes, gold, etc., and shall be obedient to their commands.....And those kings who shall be born in our lineage,—by them this grant should not be confiscated (but) should be assented to'".[6]

Thus, no body other than an independent ruler had the right of creating rent-free holdings. Others purchased land from the government for donation and the latter made it rent-free on request and probably on payment of a sum. The fief-holders could alienate a plot of land under their enjoyment only, when the king agreed to it. Moreover to make the grant permanent it was recorded on copper-plates or stone tablets; and these were the legal documents of the donees and their successors.

Nārada and Bṛihaspati have laid down certain rules for gifts. That only may be given which is left after the cost of living has been defrayed for those whom the head of the family is bound to support. Any gift, on the other hand, which causes hardship to the family is reprehensible, and not meritorious.[7] Self-acquired property, however, may be given away at pleasure by its owner; but in the case of property received as a marriage portion, or inherited from an ancestor, the bestowal of the whole is not permitted. When, however, a marriage gift, or inherited property, or what has been obtained by valour, is given with the assent of the wife, kinsmen or supreme ruler, the gift acquires validity.[8]

What has been given by a man under the influence of fear, anger,

[6] Fleet. p. 132.
[7] Nār. IV 6 & Bṛi. XIV 3.
[8] Bṛi. XIV 5—6.

hatred, sorrow, or paid as a bribe, in jest, or fraudulently, under false pretences, or by a child, a fool, a person not his own master, by one intoxicated or insane, or in consideration of a reward, or to an unworthy man or through a mistake, are invalid gifts.[9] Bṛihaspati further adds that when anything has been given through desire of a reward, or to an unworthy man mistaken for a worthy person, or for an immoral purpose, the owner may resume the gift.[10] But Nārada goes a step further and states that both the donee who covets invalid gifts and accepts them from avarice, and the donor of what ought not to be given who yet gives it away, deserve punishment.[1]

From a careful survey of the Gupta inscriptions we arrive at the conclusion that a vast area of land was given away either to individual priests or to religious institutions. The surviving donative inscriptions and copper plates can only be a tiny fraction of the total once existing. In most cases lands were given free of all royal dues. So the state treasury must have suffered considerable loss from the piety of kings, officers and individual citizens.

VIII. Land Sale:

In the earlier period of Indian history we have a few references to the system of land sale. A very clear instance of an actual land sale is recorded in a Buddhist cave inscription[2] in Western India, belonging to the first half of the second century A.D. In it we find that Ushavadāta, son of Dinīka, and son-in-law of the *Kshaharāta Satrap* Nahapāna, is described as making a gift of a field (*kshetram*) purchased from a Brāhman for 4,000 *kārshāpaṇas*, from which food was to be procured for all the monks dwelling in his cave-monastery. It should be noted that this is not a purely secular sale deed.

In the Gupta period also we have some documents relating to the sale of land ; but in very case the land was purchased for the purpose of religious donation. There are eleven such documents,[3] found only in the north-eastern province of the Gupta Empire. From these records we shall try to formulate a general picture of the land-sale system during this period, bearing in mind that it may have differed in other parts of the Empire.

At the time of purchasing a piece of land a certain definite procedure was followed. First the intending purchaser gave intimation to the local government of his desire to purchase a certain piece of

[9] Nār. IV 9—11 & Bṛi. XIV 15—17.
[10] Bṛi. XIV—17.
[1] Nār. IV 12.
[2] The Nasik Buddhist Cave Ins. No. 10 E.I. VIII. p. 78.
[3] Appendix ii.

land, the aim and object of his desire and his willingness to pay the proper price for it according to the prevailing rate.[4] Thus in the Pāhārpur Copper Plate of A.D. 478-9 Nāthaśarmā, a Brāhmaṇ and Rāmī, his wife, approached the district officer and the city-council, headed by the guild president of the merchants, at Puṇḍravardhana, with the request that, in accordance with the procedure prevalent in the locality, they might be allowed to deposit three dīnāras in return for 1½ *kulyavāpa* of land distributed among four different villages, to be endowed in perpetuity for the maintenance of requisites for the worship of *Arhats,* such as, sandal, incense, flowers, lamps, etc., and for the construction of a rest-house at the *vihāra* of the Jaina preceptor Guhanandī at Vaṭa-Gohālī.

The Council, in the first instance, consulted the record-keepers presided over by Divākaranandin, who declared that there was no objection to the transaction, especially as, besides bringing some revenue to the treasury, it would entitled His Majesty to a sixth share of the religious merit accruing from the endowment.[5] It is clear from all the grants that the office of the *Pustapāla* (record-keeper), therefore, used to make the necessary enquiries as to the ownership of the land, the aim and object of the intending purchaser and so on. Sometimes there was more than one record-keeper[6] to determine the case. But it was not always arranged smoothly. Sometimes disagreement may have occurred. In one of the Damodarpur copper plates[7] there is a hint that there may have been a slight disagreement between the *Vishayapati* and the *Pustapāla* (*vishayapatinā kaścid virodhaḥ*). Apparently objections might be raised either by the office of the *Pustapāla* or by the district governor. But if there was no objection, this department gave its consent to the sale of the land.

After receiving the consent from the *Pustapāla's* department the applicant paid in cash the usual price of the land to the district office.[8] The plot was inspected by the Local Council. The land was demarcated according to the standard measure; and finally the Local Council declared the sale and recorded the transfer of land.[9]

The declaration was also an important part of the procedure. It was generally made in the presence of the headman of the village,

[4] (a) I.A. 1910, 3 pls. pp. 193—216.
(b) The Damodarpur C.P. 5. pls.—E.I. XV. pp. 130-144.
(c) The Pāharpur Pl. E.I. XX. p. 59.
(d) The Baigram Pl. E.I. XXI. p. 78.
[5] E.I. XX. p. 59.
[6] Appendix ii.
[7] E.I. XV. p. 143, Pl. V.
[8] Appendix ii.
[9] E.I. XX. p. 59.

Brāhmaṇs, respectable householders (*kuṭumbikas*), royal officers and so on. In their presence also the land was measured according to the local custom ; and the boundary lines were fixed. After all these formalities, the purchaser had the legal title to his new land. The Faridpur Copper Plate[10] of the time of King Dharmāditya gives evidence of all the details of the procedure. It reads thus—In the reign of Mahārājādhirāja Dharmāditya, when Mahārāja Sthāṇudatta was the governor in the province of Navyāvakāśika, and, under his appointment, the *Vishayapati* Jajāva was administering the state business in the district (*vishaya*) of Vārakamaṇḍala, a person named Vāṭabhoga approached the local district administration (*adhikaraṇa*) and the people (*prakṛitayaḥ*) headed by the leading men of the district (*vishaya-mahattara*) and applied for the purchase from them of a plot of cultivated land (*kshetra-khaṇḍam*), by offering the due price. On submission of this application, the record-keeper first determined the matter and made a report that in that district the custom prevailed of selling cultivated land by means of copper-plate documents at the rate of four *dīnāras* for each *kulyavāpa* and that the king was to receive only the sixth part of the *puṇya* out of the donation according to law in such transactions. The applicant's prayer was then granted and, on deposit of twelve *dīnāras* by Vāṭabhoga, cultivated land measuring three *kulyavāpas* was sold to him, after measuring it according to the standard measure of eight or nine reeds (*ashṭaka-navaka-nalenāpavinchchhya*) by the hand of Śivachandra. The four boundaries of the plot sold were very clearly mentioned in the document, "certainly with a view to averting any future dispute or litigation that may arise".[1] This document has a seal attached to it bearing the emblem of *Śrī* or *Lakshmī* with the legend—*Vārakamāṇḍalavishayādhikaraṇasya,* i.e. the seal of the court of the district of Vārakamaṇḍala. This seal was apparently very important, for it authenticated the legal purchase made by the purchaser.

The price of land varied from place to place, as it varies even today in India. It generally depended upon the nature and quality of the soil, and the local demand for land. From the Pāhārpur copper plate[2] we know that Nāthaśarmā and his wife Rāmī purchased 1½ *kulyavāpa* of fallow land (*khila*) at the rate of 2 *dīnāras* per *kulyavāpa* from Puṇḍravardhana *bhukti* in A.D. 479. Moreover, in the Pañchanagara *Vishaya*[3] and in the village of Nandapur[4] the fallow (*khila*)

[10] I.A. 1910. pp. 195-196. Pl. "A".
[1] Basak—A.M.S.J. III part 2. p. 484.
[2] E.I. XX. p. 59; Also E.I. XV. pp. 135-6. Pl. 3.
[3] E.I. XXI. p. 78.
[4] E.I. XXIII. pp. 54-55.

lands were sold at the same rate. Again in the same province of Puṇḍravardhana *bhukti* in the district of Kōṭivarsha in A.D. 443-444, one *kulyavāpa* of unsettled (*aprada*) and untilled (*aprahata*) land, i.e. land not then under cultivation, was sold at the rate of 3 *dīnāras*.[5] The price remained the same[6] there in A.D. 448-449. During the same period, however, in the district of Kōṭivarsha in the province of Puṇḍravardhana, some *kulyavāpas* of field-land together with a building site (*vāstunā saha*) were sold at the same prevalent rate of three *dīnāras* for each *kulyavāpa*.[7] But a few years later, in A.D. 533-34 in the Kōṭivarsha *vishaya*, one *kulyavāpa* of untilled waste-land[8] was sold at three *dīnāras*. Thus in the middle of the sixth century the price of waste land became equal to that of cultivable land in the previous century. This may be due to several reasons; local differences in the prices of land in the same *vishaya*, as we see even today in Indian villages; or to the debasement of coins in the subsequent period; or to the fact that the Hūṇa invasions in the West caused a large body of people to migrate to the eastern part of the empire, thereby increasing the demand for land and raising its price. The purchaser in this last case is said to have come from Ayodhyā.

Moreover, from the three plates[9] of Dharmāditya and Gopachandra, we see that the rate of the land was still later enhanced to 4 *dīnāras*. This was possibly due to the quality of the soil, for all the land referred to in the plates is cultivable. Thus, in the district of Vārakamaṇḍala one *kulyavāpa* of cultivable land was purchased at the rate of four *dīnāras*.

Thus, from the above analysis we see that for about one hundred years, i.e. from A.D. 443-444 to A.D. 533-534 the price of the different qualities of land was more or less stable except for a little rise in the Kōṭivarsha *Vishaya*. The value of one *kulyavāpa* of waste land was 2 *dīnāras*, untilled and unsettled land 3 *dīnāras*, and the cultivable land probably 4 *dīnāras*, if we accept the evidence of the Dharmāditya's plate as applying to the whole period.

Gupta inscriptions show that there was a considerable demand for land. This was possibly due to the steady growth of the population and the prosperous conditions resulting from a century of peace. When Nāthaśarmā and his wife Rāmī donated 1½ *kulyavāpas* of land to a Jain preceptor Guhanandi of Voṭa-Gohāli,[10] they had to purchase

[5] E.I. XV. pp. 130 No. 1.
[6] Ibid. pl. 2. p. 133.
[7] E.I. XV. pp. 138-9. Pl. 4.
[8] Ibid. Pl. 5.
[9] I.A. 1910. pp. 193-216.
[10] E.I. XX. p. 59.

them from four different villages, apparently being unable to find a single plot of the required area for sale, though it would have been certainly more convenient to have donated a single plot of land near the *vihāra*. This fact undoubtedly shows that the demand for land was so high in that area that even 1½ *kulyavāpas* were not available from a particular village. Similarly Bhoyila and Bhāskara[1] had to purchase 3 *kulyavāpas* and 2 *droṇavāpas* of land from two different localities for a religious purpose. In the Gunaighar plates[2] eleven *pāṭakas* of lands were purchased from five different parts of a village. Moreover, in one of the Dāmodarpur copper plates[3] we are told that a certain Amṛitadeva had to buy five *kulyavāpas* of land from four different villages.

Thus, it is clear that nearly all good land was occupied and cultivated and that its owners were disinclined to part with it. Not a single large area was available in any given village. So the intending purchaser had to buy lands from different villages. This fact also shows that even at this period land was much fragmented, as it is today.

No secular sale-deed survives from the Gupta period. In the Faridpur copper plate[4] of the time of Dharmāditya, cultivated land measuring 3 *kulyavāpas* was sold to Vāṭabhoga with a copper-plate title deed (*tāmrapaṭṭa-dharmeṇā-vikrayamāṇikā*) after dividing (i.e. measuring) it according to the standard measure. But the lands were first purchased and then donated for a religious purpose. Hence this document may more properly be called a combined deed of purchase and gift. Only in the later period we have a purely secular "*Kraya-śāsana*" (sale deed)[5] in the Madras Museum plates of the time of Narendradhavala of cir. A.D. 786 or 886, which appear to be unique among the thousands of ancient Indian copper-plates.

Possibly ordinary sale-deeds were not usually engraved on copper-plates or stone tablets, because that was a very costly practice. So private sale-deeds and other documents were written on cheap and perishable materials, such as palm-leaves or cloth. The existence of such deeds in the Gupta period is suggested by references in Sanskrit works.[6] As Bṛihaspati[7] states, when a person having purchased a house, field or other (property) causes a document to be executed containing an exact statement of the proper price paid for it, it is

[1] The Baigram Pl. E.I. XXI. p. 78.
[2] I.H.Q. VI—1930. pp. 53-56.
[3] E.I. XV. p. 143.
[4] I.A. 1910. p. 195, Pl. "A".
[5] E.I. Vol. XXVIII, Part I & II. pp. 44-50.
[6] P. V. Kane—Hist. of D.H. Vol. III. p. 308.
[7] Bṛi. VI. 13.

called a deed of purchase. Religious land endowments, on the other hand, were tax-free, so it was necessary to make a more permanent charter on stone or on copper plates. Moreover, they were granted various immunities which had to be permanently recorded. But privately owned land was not normally tax-free, and was likely to change hands with comparatively greater frequency, so there was no necessity to make a costly charter, when it was bought and sold.

Moreover, lands were in many cases dedicated to corporate bodies like the Buddhist and Jain *Saṃghas*, and to the temples, the personnel of which was continuously changing. So a permanent character was more necessary in these cases. There might be a keen desire for publicity on the part of the donor, who would thus have a permanent charter made to perpetuate his piety in future generations, and to warn his successors not to appropriate the grant. But the main reason for making a permanent document for rent-free holdings was that it had possibly often to be shown to tax-collectors without it the land became tax-paying.[8]

[8] The Nidhanpur C.P.—E.I., XII. pp. 65-9; XIX. p. 115. ff.

CHAPTER III

REVENUE SYSTEM

Some form of taxation existed from the very earliest times in India. In the Ṛig Vedic period the people paid tribute (bali-hṛit)[1] to the king. In later times a full treasury was considered absolutely essential to a healthy state. Thus Kāmandaka said that the treasury is the root of kings.[2]

From the earliest time down to the present day the state has been bound up with taxation and all undertakings of the government depend on it. A close connection between taxation and public administration is almost self-evident in our law-books and literature, and it is one of the primary and fundamental conditions of corporate life. Long before the Gupta period the vague *bali*, delivered by the subjects to the king in the Vedic period, had given place to a complex system of taxation.

Several reasons have been set forth in ancient Indian texts in justification of the taxation by the king. The early lawgiver Gautama[3] lays down that the taxes are to be paid in return for the protection given by the king. According to Nārada[4] the royal revenue is the reward of the king for the protection of his subjects. Hindu theory thus more or less corresponds with the first canon of Adam Smith. According to this canon "the subjects of every state ought to contribute towards the support of the government, as nearly as possible, in proportion to their respective abilities; that is, in proportion to the revenue which they respectively enjoy under the protection of state".[5]

The king has thus the right of taxation. But he should not impose oppressive taxation, otherwise he would destroy the tree which gives the golden apples. Regarding this Kāmandaka advises the king to follow the principle of a florist or of a milkman. Just as cows are at one time to be tended and nourished and at other times to be milked, so are the subjects to be helped at one time with provisions and money, and at other times to be taxed. Again, a florist both tends and sprinkles water on his plants and cuts off flowers from them.[6] But in the case of rich royal officials, who have gained enormous wealth by

[1] R.V. X. 173. 6.
[2] XIII, 33, p. 69.
[3] Gaut. X. 28.
[4] Nār. XVIII. 48.
[5] Smith's "The Wealth of Nations", Vol. II, p. 310. 5th Ed.
[6] Kām. V. 84. p. 29.

some foul means, Kāmandaka gives the king a different advice. In such cases a monarch should bleed freely his subordinates swelling with unlawful wealth, like a surgeon bleeding a swelling abcess. Thus stripped of their unlawful gains, they stand by their sovereign like men standing by fire.[7]

Kālidāsa puts forward explicitly this theory of the justification of taxation, which must have been widespread in court circles during our period. Taxes were levied and revenue realised from the people for their own benefit; and they were to be realised for the welfare of the subjects rather than for the king. The budget of the state should be so adjusted that the people derived benefit from it in a thousand ways. The sun draws water from the earth only to restore it to her a thousand fold. The king, no less a benefactor, must act in the manner of the sun.[8] There is no doubt that good monarchs tried to maintain these principles in their fiscal policy.

The principles of Kāmandaka and Kālidāsa have close affinity with the third and the fourth canons of Adam Smith, who declares that "every tax ought to be levied in the time, or in the manner, in which it is most likely to be convenient for the contributor to pay it".[9] It should also be "so contrived as both to take out and to keep out of the pockets of the people as little as possible, over and above what it brings into the public treasury of the state".[10] Just like the doctrines of Kālidāsa and Kāmandaka, in the opinion of John Stuart Mill just taxation involves "apportioning the contribution of each person towards the expenses of government, so that he shall feel neither more or less inconvenienced from his share of the payments".[1]

Following the above principles, the revenue was collected and hoarded up in the royal treasury, in theory for the benefit of all. It was always considered that the treasury and the army were the mainstay of the government. In the Gupta period we may assume that the royal treasury was full and in prosperous times remained so, for it was considered to be one of the most important limbs (*aṅgaḥ*) of the state. It had its own officials.[2] Kāmandaka suggests that a monarch should take special care of his treasury, for the life of the state depends solely upon it. He should not extravagantly spend its contents and should personally inspect it.[3] These principles were probably followed

[7] Kām. V. 85.
[8] Raghu. I. 18.
[9] Smith's "The Wealth of Nations" Vol. II. p. 311.
[10] Ibid.
[1] Mill's "Political Economy", Vol. II. p. 366, (3rd Ed.).
[2] Raghu. V. 29.
[3] Kām. V. 77; also Manu VII, 65; Raghu—XVII. 60. 81.

in our period, for we read in Kālidāsa of wealth being carried by hundreds of mules and camels, from the royal treasury, when Raghu donated fourteen crores of coins to a Brāhmaṇ.[4] This may be an exaggerated statement, yet there is some truth in it, for we see that Samudragupta successfully launched vast campaigns over the major part of India.[5] These must have needed a sound treasury and a good army to back up his cause. It is possible that Samudragupta's great southern expedition had as its main motive the filling of his treasury to provide resources for his more important expeditions in the West. The little kings whom he conquered and restored to power could have been of no danger to the safety of Gupta power in the North. But they were no doubt wealthy from the proceeds of maritime trade on the Coromandel coast and Kaliṅga, and from their access to the Kolar gold mines and the jewels of the South (i.e. the pearls from the Tāmraparṇī river, etc.). We may thus assume that Samudragupta's southern expedition was exceedingly profitable, and provided him with the sinews of war for his later campaigns in the North.

Various sources of revenue are mentioned in our law-books. According to Kāmandaka the sources of prosperity are eight-fold, viz., agriculture, communication to facilitate commercial traffic, entrenchment of strongholds for soldiers in the capital, construction of dams across rivers, erection of enclosures for elephants, working of mines and quarries, felling and selling of timber, and the peopling of uninhabited tracts.[6] Here it may be first curious that fortifications for soldiers can be a source of income. But we should bear in mind that when merchants and traders are aware that a country is well protected, they unhesitatingly bring their merchandise to sell in the markets, and thus add an impetus to the commerce of the land. Military strength thus leads to commercial improvement and becomes the source of wealth. The same observations can be made regarding elephants. A modern example of the profitability of fortifications can be found in the rapid growth of the European settlements in Bengal during the troublous times of the Marāthā raids, when inhabitants of all races took refuge in the shadow of the forts of Fort William and Chandannagar.

I. Land Revenue:

From the numerous references in our epigraphic records we see that land revenue formed the greatest source of wealth to the royal treasury. Generally speaking, the state claimed one-sixth of the pro-

[4] Raghu V. 21, 32.
[5] Fleet. Ins. p. 1.
[6] Kām. V. 78-79.

duce of the land from the people in return for the protection given to their persons and property.[7] The principle of the payment of the "sixth" was so strongly entrenched on the thought of the time that Kālidāsa states that by protecting asceticism from obstacles and wealth from robbers the king was made the enjoyer of one-sixth of the earnings of the *Āśramas* and the different castes according to their respective capacities.[8] This is called the subsistance allowance (*vṛittiḥ*) of the king.[9] Even the hermits in the penance grove were not free from taxation; and it is said that the sixth part of the rice collected by these ascetics was placed on the bank of the river to be taken away by the royal officers.[10] But the king Dushyanta, instead of accepting any revenue from the saints, accepted only one-sixth of the merit of their religious observances (*tapasyā*).[1] The account of Kālidāsa is fully corroborated by Nārada, who states that one-sixth of the produce of the soil forms the royal revenue. It is taken as the reward of the king for the protection of his subjects.[2] This is also supported by the earlier lawgivers, with certain variations in taxation.[3] Manu states that a king should receive from his subjects a sixth, eighth or twelfth part of the crops, possibly according to the fertility of the soil.[4] But the Śukranīti of a later period is more severe and recommends a realization of one-third, one-fourth or one-half from places which are irrigated by tanks, canals and wells, by rains, and by rivers respectively. He advocates one-sixth only from barren and rocky soil.[5] It would thus appear that the tax tended to increase throughout the first millennium of the Christian Era.

Thus one-sixth was, according to our lawgivers, the customary share of the king from the products of the soil. Though there is some evidence that in the medieval period the land-tax in kind was occasionally commuted for a regular cash payments,[6] we have no evidence of this in Gupta times, and we must therefore assume that the tax was normally in the form of a proportion of the actual crop. But the fiscal term like *hiraṇya* is sometimes recorded in our inscriptions. It generally means 'tax in money'; the nature of it will be explained later on. No

[7] Raghu ii.—66; V—8; XVII. 65; Śak ii. p. 850.
[8] Raghu XVII. 65.
[9] Śak V. p. 911.
[10] Raghu V. 8; Śak ii. p. 850.
[1] Śak ii. p. 850.
[2] Nār. XVIII. 48.
[3] Manu VII, 130-132; Gaut. X. 24-27; Āps. ii. 10, 26. 9. Vishṇu III, 22-25; Baudhā I. 10. 18. I.
[4] Manu VII. 130-132.
[5] Śuk. IV. ii. 227-229, 230.
[6] Śāstrī:—The Colas Vol. II, Part I. pp. 313-349. Altekar:—The Rāshtrakūṭas, pp. 212-226, (specially pp. 215, 217-223).

Gupta inscription directly states the proportion demanded in practice, but from the Baigrām and the Pāhārpur copper plates,[7] which give to the king one-sixth of the religious merit accruing from a donation, we may assume that this proportion was the standard rate in our period, though, as at most other times, it may often have been exceeded. Besides this there were various other taxes and royal dues, such as *udraṅga, uparikara, kḷipta, upakḷipta, hiraṇya, bali,* and the supply of forced labour (*vishti*) and dairy produce.

Direct evidence of taxation of our period is rather scanty in our epigraphs. But from the references to exemptions from various kinds of royal dues, to their transference to the donee, or to the granting of certain taxes while others were kept reserved by the donor himself, we can trace an outline picture of revenue system of this period.

Among the commonest revenue terms of our period we find *bhāga-bhoga-kara* in our inscriptions.[8] *Kara* is often used to indicate tax in general,[9] and in this sense we shall examine the term later on. Fleet suggests that the term *bhāga-bhoga* may perhaps be considered as one fiscal expression indicating "enjoyment of taxes",[10] for its literal meaning is "enjoyment of shares".[1]

Sometimes the two words are used in reverse order and are recorded as *bhoga-bhāga*.[2] If we agree with Fleet that *bhāga-bhoga* is one word, then *bhoga-bhāga* is also one word; and its meaning is suggested by him as "share of the enjoyment".[3] But these terms are used separately in some early sources. Sircar[4] explains *bhāga* as the royal share of the produce, and *bhoga* as the periodical supplies of fruits, firewood, flowers, etc., which the villagers had to furnish to the king.

Bose[5] suggests that "there are two taxes, one the regular *bhāga* and another the irregular *bali* which is fixed at $\frac{1}{4}$". The Arthaśāstra[6] also mentions *bhāga* with *bali, kara,* etc. under the title of *rāshṭra,* which includes the tax of one-sixth (*shaḍbhāga*) with *bali* and *kara* etc., under the same general heading. In this case *bhāga* undoubtedly means the king's customary share of the produce, normally, though not universally, amounting to one-sixth. Bhaṭṭasvāmin, commenting on

[7] E.I. XXI. p. 81. XX. p. 63.
[8] Fleet, pp. 118, 122, 129.
[9] Manu VII, 128, 129, 133.
[10] Fleet. p. 254, f.n. 4.
[1] Ibid. p. 120, f.n. 1.
[2] Fleet, pp. 179, 194, 198, 295, etc.
[3] Fleet, p. 120. f.n. 1.
[4] Select. Ins. I. p. 372, f.n. 7.
[5] Bose's Economy I. p. 126.
[6] Arth. ii. 6. p. 60; ii. 15. p. 93.

the latter passage, explains *shaḍbhāga* in the general sense of royal share (*rāja-bhāga*). He further adds that the term one-sixth includes by implication other rates such as one-third and one-fourth prevailing in different tracts.[7] Besides this "*bhāga* seems to have been applied in the Arthaśāstra by a natural extension of meaning to other taxes of a similar nature".[8] We have thus in Arthaśāstra[9] the term *udakabhāga*, meaning the water-tax paid by the cultivators of wet lands at varying rates. Another example of the technical use of *bhāga* occurs in Arthaśāstra,[10] where we have the term *lavanabhāga*, meaning the king's share of the salt which is levied from manufacturers, probably working under state licenses.

The *bhoga* of our inscriptions[1] and of Manu[2] probably means daily presents in the form of flowers, fruits, vegetable, grass, etc., for it is interpreted by Medhātithi and Kullūka[2a] as such. The custom of giving presents to the king on special occasions was very common in ancient India.[3] When Aja started for his marriage, on the way he received cloths, grains and various other kinds of presents from the village people. Sometimes cowherds are described as visiting the king, when on tour, with gifts of newly made ghee.[4] Thus *bhoga* may be the same as the right of enjoying the abundance of flowers, milk, hide, charcoal, etc. of our inscriptions.

Sometimes the states also demanded forced labour (*vishti*) as we shall see elsewhere. Moreover, "services in labour and gifts of provisions were expected by the King and his officers when on tour, and this might put small rural communities into serious difficulties".[5] As, for instance, three merchant brothers were returning from the port of Tāmralipti to their home in Ayodhyā, with a caravan of merchandise and provisions. They rested for the night at a village called Bhramaraśālmalī. Meanwhile the local King, Ādisiṃha, passed by on a hunting expedition, with a large band of followers and, as was the custom, demanded provisions from the villagers.[6] But they were suffering from a temporary shortage and could not meet this demand.

[7] Arth. ii. 15:—Comm. of Bhaṭṭasvāmin in J.B.O.R.S. XI. Pt. III. p. 83.
[8] Ghoshal's Historiography, p. 172.
[9] Arth. ii. 24. p. 117.
[10] Ibid. ii. 12. p. 84.
[1] The Vatsagulma Pl. of Vindhyaśakti II, I.H.Q. XVII. p. 112-114.
[2] Manu VIII, 307.
[2a] Manu VIII. 307 commenting on it.
[3] Fick—The Social Organisation, p. 115.
[4] Raghu I. 45; V. 41.
[5] Basham:—The Wonder, etc. p. 108.
[6] The meaning of the word "avalagaka" (or avalagana, l.7) in the inscription is not certain, but it evidently implies provisions or supplies of some kind—E.I. ii. No. 27. p. 346.

So they sent a deputation to the merchants who at their request gave the King provision from their own stock.[7]

The *kara* is another form of revenue frequently mentioned in our epigraphs.[8] This fiscal term was apparently unknown in the early Vedic literature. However, in the Dharmaśāstras and in the Arthaśāstra of Kauṭilya, it was a quite familiar term. The standard lexicons[9] identify the terms *bali, bhāga* (*-dheya*) and *kara* as common designations of the land tax. But the Arthaśāstra[10] and Manu[1] give a rather different explanation. The significance of *kara* in the Manu is differently interpreted by different commentators. It is shown by the following examples as,—gifts of commodities (*dravyādīnāṃ-Medhātithi*), a fixed gold payment on land (*bhūminiyataṃ deyaṃ hiraṇyam—Sarvajñanārāyaṇa*), contribution in the form of grass, wood, etc. (*gulmadāyādikaṃ—Rāmachandra*), contribution from villagers and townsmen either monthly or at Bhādrapada and Pausha (*grāmapuravāsibhyaḥ pratimāsaṃ vā bhādrapausha-niyamena grāhyaṃ*—Kullūka), a monthly payment by villagers (*grāmavāsibhyaḥ pratimāsikam—Rāghavānanda*). The last two interpretations are very much in agreement with Bhaṭṭasvāmin's explanation[2] of the term in his commentary on the Arthaśāstra.

Kara thus appears to be of the nature of a periodical tax levied more or less universally on villagers. It is apparently this vague and unsatisfactory definition that has led modern interpreters of the Arthaśāstra to attempt to find a more suitable meaning. Thus, in connection with the above passage Dr. Shamasastry translates it in one place as "tax paid in money"[3] and in another place as "taxes or subsidies that are paid by vassal kings and others".[4] In his German translation of the Arthaśāstra, Meyer,[5] while rendering it on the authority of Bhattasvāmin as annual tax (*Jahressteuer*), thinks Sastry's first explanation to be possibly correct. He also at the same time suggests, as a possible meaning, ground-tax (*Bodensteuer*). Of all

[7] E.I. ii, No. 27. p. 343.—Although this inscription on the paleographic grounds can be dated in about 8th Cent. A.D., a little later than our period, we have similar references in the Raghuvaṃśa (V. 41).
[8] The Spurious Gaya Pl. of Samudragupta—Fleet p. 257, L.13. "....Karadakuṭumbi...." Ibid. p. 118, L.12; 122, L.13; 127, L.17; 131, L.9; 136, L.9, etc.
[9] Amar. 8. 28. p. 181. ".....bhāgadheyaḥ karo balih....."; Vaijayantī. p. 107; 45.
[10] Arth. ii, 6. p. 60; ii, 15. p. 93.
[1] Manu VIII 307.
[2] Comm. on Arth. ii, 15. "....karah prativarshadeyaḥ bhādrapadikavāsantikādhyaṃ pādevaṃ..." J.B.O.R.S. XI, Pt. III. pp. 83-84.
[3] Arth, tr. Śāstrī (3rd ed.). p. 58.
[4] Ibid. p. 99.
[5] Quoted from Ghoshal's Historiography, p. 174.

these explanations it can be said that they are not supported by any other independent evidence.

The Junagarh Rock[6] inscription of the Mahākshatrapa Rudradāman, dated c. A.D. 150, shows *kara* in use as a distinct source of revenue at this period and throws some light upon its nature. There it is said that Rudradāman met the expenses of the construction of the dam of the Sudarśana lake out of his own treasury and without oppressing his subjects by means of *kara, vishṭi* and *praṇaya*. From this it would seem that *kara* was thought like *vishṭi* (forced labour) and *praṇaya,* (emergency levies) to be an oppressive tax. Sircar[7] also suggests that it was a tax to be paid besides the grain share. It would thus appear that *kara* was not a part of the regular annual land-tax, but a special tax which might be remitted by conscientious kings.

Another fiscal due, *bali,* occurs in many inscriptions[8] and in literature.[9] It is the oldest Indo-Aryan term for the royal revenue. In the Ṛig Veda it is the king's due both from his subjects and from conquered kings.[10] Zimmer[1] affirms that *bali* in the former sense was originally a voluntary offering on the part of the subjects, and that only in later times did it assume the character of a compulsory payment or tax. Macdonell and Keith,[2] on the other hand, do not share the view of Zimmer. It was possible that *bali* was from the first of the nature of a customary contribution payable by the subjects, and not depending solely upon their free choice. Thus, in the Brāhmaṇical period[3] *bali* had certainly assumed the character of a tax. It is hardly likely that even a kingdom of the primitive semi-tribal type could subsist on purely voluntary contributions.

But in later times, when other items of taxation appear along with *bali,* it is only used in a special sense. Sometimes in the Jātakas[4] *bali* is used in the sense of additional and oppressive cesses. In the Milinda-pañho *bali* is mentioned as emergency tax from which the four chief ministers were free.[5] Moreover, in the Rummindei Pillar inscription of Aśoka[6] it is used exclusively in the narrower sense. Dr. F. W. Thomas[7]

[6] E.I. VIII. p. 44.
[7] Select. Ins. I. p. 372, f.n. 7.
[8] Fleet, pp. 114, L.13; 122, L.10; 127, L.16; 166, L.27; 131, L. 13; E.I. XV. pl. 5; p. 143, L.9.
[9] Amar. 3, 195, p. 317; 8.28. p. 181.
[10] Cf. H.R.S. pp. 4-5.
[1] Altindisches Leben. p. 166, quoted from Ghoshal's Hist. p. 167.
[2] Vedic Index II. 62.
[3] Ait. Br. VII, 29—"anyasya balikṛit anyayādyo yathākāmajyeyo..."
[4] Jāt. I, L.199, L.339; II, L.240; III, L.9; V, L.98.
[5] Milinda p. 146; (S.B.E. XXXV) IV 2, 8.
[6] Hultzsch p. 164 (C.I.I.) L.4 "....ubalike kate...."
[7] J.R.A.S. 1909, pp. 466-467.

takes the term *"ubalike"* as "free from *bali*", and rightly interprets it as a religious cess, although Hultzsch[8] explains it more freely as "free of taxes".

Now accepting Thomas' definition of *bali* we can translate *ubalike* as free from religious cess. The significance of the whole passage, then, would be that the village, in consideration of its being the birth-place of Buddha, has its rate of land-revenue reduced by Aśoka to $\frac{1}{8}$th, while the additional cess was abolished altogether. This interpretation of *bali* as a religious tax of some kind is quite in agreement with our epigraphic records, for in our period whenever the term *bali* occurs it is recorded along with *charu* and *sattra*.[9] These last two terms are already explained elsewhere. The *bali* like *charu* is an offering to the gods, comprising clarified butter, grain, rice, fruits, flowers and so on. Even today in Indian villages in common religious festivals these are offered to the gods by collecting general contributions, and in that sense *bali* can be explained as a sort of religious cess or contribution.

Another fiscal term *uparikara* sometimes occurs in our inscriptions.[10] Fleet[1] suggests that it derives from the word *'upari'* or *'upri'*[2] and at first interprets it as "a tax levied on the cultivators who had no proprietary rights in the soil". But in all these inscriptions the term *uparikara* is recorded along with another fiscal expression as *udraṅga*.[3] This has tempted Ghoshal to conjecture that the two fiscal terms have been used antithetically. He thus explains *udraṅga* as a tax levied on the permanent tenants and *uparikara* as a tax imposed on the temporary tenants.[4] He connects *uparikara* with the Marāthī word *upri*, which means a cultivator not belonging originally to a village, but residing and occuping land in it, either upon a lease for a stipulated term of years, or at the pleasure of the proprietor. The evidence for this is very tenuous, since the Marāthī language did not develop for some ten centuries after the date of our inscriptions, and it is very rash to draw conclusions from such feeble linguistic evidence; the same contention is applicable to Fleet's interpretation. L. D. Barnett rejects the view of Ghoshal altogether, and suggests that *uparikara* is something like "the Tāmil *mel-varam*, i.e. the crown's share of produce (*Tāmil "mel"*

[8] Hultzsch, p. 165.
[9] Supra p. 59, f.n. 8; also Āpas ii, 2.3—12, 13, 15.
[10] Fleet, pp. 96, L.12; 103, L.16; 107, L.7; 118, L.8; 131, L.9; 136, L.8; 166, L.26; E.I. VIII. p. 287, L. 17.
[1] Fleet. p. 98, f.n. 1.
[2] "Upri" is a modern Bengali word denoting extra or in-excess.
[3] Supra f.n. 10.
[4] H.R.S. p. 210.

= *Skt. upari*)".[5] But this term often occurs together with others such as *udraṅga* and *bhāga,* which more probably imply the standard royal share, and therefore this interpretation is improbable.

It is very difficult to say anything conclusively. However, in Sanskrit, Bengali and Hindi the term *'upari'* or *'upri'* means 'upon' or 'extra'. This has led Sircar to explain it as an 'extra-cess',[6] which seems to us the most probable interpretation.

The meaning of another revenue term *udraṅga,* which we have just referred to is highly conjectural. According to Śāsvatakosha[7] it is explained by *udhāra* and *udgrantha.* Following this source Fleet explains the term as "the share of the produce collected usually for the king".[8] This is not likely, if *bhāga* means the regular land tax, as is generally believed, since in many inscriptions *bhāga* and *udraṅga* occur together, evidently implying different taxes.

Ghoshal interprets it as a tax levied on permanent tenants[9] in distinction to *uparikara* which, as we have seen, he interprets it as a tax on temporary cultivators. Sircar also holds the same opinion.[10] To strengthen his arguments Sircar further cites that Marāthī *udhārjamābandī,* which is an assessment of the total revenue of a village upon the proprietor, who is entitled to distribute the proportions among the peasants.[1] Two other suggestions can be offered for the plausible explanation of this fiscal term. If it is the same as *draṅga,* which, according to the Rājataraṅgiṇi,[2] is a watch station, it can be taken as a sort of police tax levied on the district for the maintenance of the local police station. It might also be suggested that it is an anomalous derivative of the Sanskrit word *'udaka'* and thus it may be a water-tax. But Ghoshal's suggestion is not convincing here, for in every case *udraṅga* is recorded along with other normal dues of the king. It therefore seems to be an extra imposition, whatever its nature may be, upon all kinds of tenants.

Hiraṇya is another term recorded in some of our inscriptions.[3] *Dhānya* (paddy or a grain share) is recorded in the Mālia Copper plate of Dharasena II.[4] The latter is apparently a royal share of

[5] J.R.A.S. 1931, p. 165.
[6] Select Ins. I. p. 266, f.n. 5.
[7] Zachariae's Ed. XXIX. p. 260 quoted from Fleet. p. 97, f.n. 6.
[8] Fleet, pp. 97-98, f.n. 6.
[9] H.R.S. p. 210.
[10] Select. Ins. I. p. 371, f.n. 5.—"Udraṅga = udhāra, udgrantha (sāsvata) = probably a tax on permanent tenants".
[1] Select. Ins. I. p. 371, f.n. 5.
[2] Stein's tr. of Rājt. ii. pp. 291-92.
[3] Fleet, pp. 122, L.11; 131, L.14; 166, L.26; 257, L.12.
[4] Fleet. p. 166.

certain crops paid in kind. On this analogy Sircar[5] explains the term *hiraṇya* as a king's share of certain crops paid in cash. From its literal sense it is a tax payable in gold or gold coins. But it is highly unlikely that ordinary peasants paid taxes in gold, among other heavy impositions, for the value of the gold coin at that time was very high, as we have seen elsewhere. So it is better to accept Sircar's suggestion that *hiraṇya* has in this context the conventional sense of "cash".

Another fiscal term, *vāta-bhūta* is referred to in the Māliya Copper Plate of Dharasena II.[6] But it is recorded in the Alina Copper Plate of Śīlāditya VII[7] in the reverse as *bhūta-vāta*. Fleet[8] explains that *vāta* is derived either from *vā* 'to blow' or from *vai* "to become dried or withered", while *'bhūta'* is the past participle of *bhū*, which means "to become". But he does not elucidate the term any further. Ghoshal, on the other hand, translate it as "revenue derived from the elements and the winds".[9] It is possible that these two terms should be taken separately as different kinds of cess for the maintenance of rites respectively for the winds (*vāta*) and for the spirits (*bhūta*), in the same manner as *bali* and *cāru*.

Even today in Indian villages, to avert natural calamities due to rain and wind, the villagers worship Indra (the god of rain) and Varuṇa (nowadays looked on as the god of wind and rain). Thus rites to appease the wind and rain were thought essential in the agricultural life of the day. This practice was traditionally followed by the village people even in the early part of the twentieth century. Probably some kind of general contribution was collected for these ceremonies either in cash or in kind.

In the Khoh Copper plate of Śarvanātha[10] *halirākara* is recorded. Ghoshal suggests that this was a plough-tax.[1] It might also be an extra tax imposed on the area which could be cultivated by one plough in a single season, though any interpretation is uncertain. The *hali* as a measure of land seems hardly the likely object of a special tax. There is evidence that at a later time land was sometimes taxed according to area,[2] but we know that plough taxes were levied down to Mughal times.[3]

[5] Select Ins. I. p. 372, f.n. 7.
[6] Fleet. p. 166.
[7] Fleet. p. 179.
[8] Ibid. p. 170, f.n. 9.
[9] H.R.S. p. 291.
[10] Fleet, p. 134, L.13. "halir-ākara....".
[1] H.R.S. pp. 213, 292.
[2] Cambridge Hist. of India IV p. 450. In the Mughal period there was the system of revenue "charged on the unit of cultivation".
[3] Ibid. p. 454.

In the Gupta period the King sometimes exacted dues in the form of temporarily taking cows, presumably for milk, and bullocks[4] for the cultivation of the royal lands and for drawing the state carts. They were not demanded for animal sacrifice, for by this time the cow had become a sacred animal.[5] Moreover they were possibly supplied to officers on tour in a village.

Sometimes in donations of land the entrance of *chāṭas* and *bhaṭas* was prohibited.[6] Fleet,[7] following the interpretation of Bühler,[8] explains them as regular or irregular troops. Dr. Bhagwanlal Indraji[9] takes *chāṭa-bhaṭa* as meaning soldiers against robbers and as denoting the royal police.

But from later inscriptions we can suggest their interpretation in a more definite way. The Sūrat plate of Vyāghrasena[10] makes it clear that the *chāṭas* and *bhaṭas* acted partly as police and partly as military. They were appointed to arrest robbers and persons guilty of high treason. The Talcher grant of Kulastambha mentions them along with the government employers and grant-holders and remarks that they always try to please the *rājans*.[1] Bāṇa[2] also in many places mentions *chāra-bhaṭas* together in one compound, like the *chāṭa-bhaṭas* of the land grants. According to him also they were hated by the country people on account of their cruelty and greed. In one place he describes them as talking and laughing with the slaves and servants of the nobles after taking plenty of grain from the fields. In another place he writes that the poor were grumbling at the cruelty and ill-treatment received at their hands.[3]

It appears, therefore, from the above references that *chāṭas* and *bhaṭas* were persons employed for watch and ward, for collecting revenue, and for arresting thieves and robbers. Probably they were in the habit of collecting oppressive extra impositions and were hence very unpopular among the people. Perhaps they would often levy illegal taxes for their own benefit, as the later Marāthās levied *chauth*,

[4] Fleet, pp. 238, L.27; 246, L.28; E.I. XV. p. 42, L.17. J.A.S.B. (N.S.) XX. p. 58.
[5] Raghu—I, 75-94; ii. I—67.
The Eran Pl. of Budhagupta—Fleet. p. 89.
The Eran Ins. of Toramāṇa—Fleet. p. 160.
[6] Fleet, pp. 96, 103, 107, 118, 127, 136, 198; E.I. VIII. p. 287; XI. p. 221.
[7] Fleet, p. 98 and f.n. 2.
[8] I.A. 1876. p. 115. f.n.
[9] I.A. 1880. p. 175—Note 41.
[10] E.I. XI. p. 221.
[1] E.I. XII. p. 157.
[2] Harsha-charita VII. p. 205. (Nirnayasagar, Bombay, 1925).
[3] Ibid. VII. p. 211.

and hence the right to claim freedom from their exactions was much valued by the recipients of land-grants.

II. Miscellaneous Taxes and other State Incomes :

During this period not only the agriculturists but also the artisans had to pay taxes to the state.[4] But we do not know in what way or to what extent they were taxed.

Another important fiscal due mentioned in the Amarakośa[5] is *śulka* (tolls and customs). The existence of this is corroborated by some epigraphic evidences. Some of them simply mention the fiscal term of *Śulka*.[6] The Bihar Stone Pillar inscription of Skandagupta[7] records the name of a collector (*Śaulkika*) of *śulka*. According to Fleet[8] the *Śaulkika* is the official title for the superintendent of tolls or customs. The second plate of Dharmāditya[9] mentions Gopāla-Svāmin as a custom officer (*vyāpāra-kāraṇḍya-Gopāla-svāmin....*). According to Pargiter he used to control trade. Probably he used to levy taxes and collect state dues on merchandise from the traders and merchants. In the Grant of Gopachandra a similar kind of official[10] is referred to. When the *uparika* Nāgadeva was reigning, Vatsapāla-svāmin was appointed as an officer to regulate trade in Nāvyāvakāsikā in the province of Vāraka.

Śulka is referred to from the earliest times, and it finds mention in the Atharvaveda.[1] In the earlier law-books *śulka* is a familiar fiscal term,[2] and was perhaps used in a general sense.

But the narrower technical sense of *śulka* is illustrated in the standard lexicons.[3] They uniformly render it as what is payable at the ferries etc. (*ghaṭṭādideya*). Kshīrasvāmin, commenting on the passage of the Amarakośa,[4] further states that *śulka* comprises the ferry-duties, the tolls paid at the military or police stations, and the transit duties paid by merchants. The commentators of Manu[5] like-

[4] The spurious Gaya Pl. of Samudragupta—Fleet 257, L. 12-13 "....ānyad-grām-ādi-karada-kuṭumbi-kāruk-ādayah...."
The Nālandā Pl. of Samudragupta E.I. XXV. p. 53, L. 9-10.
[5] Amar. 8. 28. p. 181.
[6] Fleet, pp. 122, 246.
[7] Fleet. p. 50.
[8] Ibid.
[9] I.A. 1910. p. 200.
[10] Ibid. p. 204.
[1] A.V. III. 29.3:—S. P. Pandit Vol. I. 495-496.
[2] Vas. XIX, 37; Gaut X. 25-26; Manu VIII, 307.
[3] Amar. 8.28 p. 181. Anekārthasaṃgraha II. 19, etc.; Abhidhānachintāmani—III 388.
[4] Amara: 8. 28. p. 181. "Ghaṭṭa-di-deyam". Also Bṛi. XIII. 12.
[5] Manu VIII. p. 307.

wise interpret *śulka* in the general sense of duties paid by merchants. In somewhat more restricted sense the term *śulka* occurs in the Arthaśāstra. In one place *śulka*[6] is included into the list of items comprising the term *durga* (the fortified town). In other passages of the Arthaśāstra[7] *śulka* is distinguished from *gulmadeya* and *taradeya* as well as *vartaṇī*. Thus, according to Ghoshal[8] *śulka* is especially the tax levied on merchants inside the fortified town, and is distinct from the ferry-duties, etc., that were levied in the country-port. Over and above this, Kauṭilya[9] lays down rules for the collection of *śulka* by the superintendent of tolls at the toll-house situated near the main gate of the town. But *śulka* could also be collected at the ports, for in another chapter dealing with the duties of the superintendent of ships (*nāvādhyaksha*) we are told that merchants should pay their share of the toll in accordance with the usage of the ports.[10] We thus come to the conclusion that *śulka* was a royal share of the merchandise brought into a town, or harbour, by merchants. Owing to the prosperous condition of India in the Gupta period, there was a considerable inland and foreign trade. As a result of this the government had, like the Mauryas, to maintain a regular department to collect *śulka*;[1] and a superintendent[2] of tolls or customs dues was needed. Rules are laid down by Nārada to govern the sales and custom duties. A trader on reaching a toll-house should pay the legal duty. A prudent man must not try to evade it, because it is called the King's due (or tax). But if he evades paying toll or if he buys or sells at another than the legal hour, or if he does not state the value of his goods correctly, he shall be fined eight times the amount he tried to evade.[3] A merchant who has committed any one of these offences shall pay eight times the amount of the duty avoided by him as a fine. Similar rules are given by the earlier law-givers, such as Manu[4] and Yājñavalkya.[5] There are also certain rules for the ferry duties, and possibly the King received a considerable sum out of these. But Nārada, who was himself a Brāhmaṇ, exempts the Brāhmaṇs from paying this duty. According to him a Brāhmaṇ has the right to cross rivers without paying any fare, and to be conveyed to the other bank before the people of the

[6] Arth. ii. 6, p. 60.
[7] Ibid. ii. 16, p. 99; ii. 35, p. 143.
[8] Ghoshal's Historiography, p. 177.
[9] Arth. ii. 21.
[10] Ibid. ii. 28. p. 126.
[1] Fleet, pp. 122, 246.
[2] Fleet, p. 50.
[3] Nār. III. 12-13.
[4] Manu VIII. 400.
[5] Yāj. ii. 262.

other castes. Even when the Brāhmaṇs are engaged in trading, they shall pay no ferry toll.[6]

Another source of the King's wealth, as in present-day India, was treasure-troves, deposits, mines and the digging of salt, all of which exclusively belonged to the King. There are many indirect references to this kind of wealth.[7] After donating lands the King sometimes reserved certain rights over treasures and mines, but sometimes these rights were given to the donee.

Regarding treasure-troves, Nārada specifies certain general rules for the benefit of the state and the society. He states that the finder of this kind of wealth must first notify the King. Treasures found by Brāhmaṇs belong to them, but should be formally received from the hands of the King. But if found by members of the other castes, they belong to the King.[8]

Two other fiscal terms, *kḷipta* and *upakḷipta,* have not yet been studied properly by Indologists. They are recorded only in a few inscriptions of the Vākāṭaka Kingdom.[9] Shamasastry explains *kḷipta* as a fixed tax and one of the sources of the state revenue.[10] Ghoshal[1] shares the same view. Sircar, on the other hand, holds that they are one term, and may mean *kḷiptika,* purchase tax or sale tax.[1a]

Here it should be noted that, whenever they occur, they are either preceded by or followed by the terms *nidhi* and *upanidhi,* which mean deposit (or buried treasure) and minor or excess deposit. Thus the term *kḷipta* and *upakḷipta* may refer not to taxes but to some royal right over the land, the nature of which is not clear from the inscriptions or from any other sources.

In our period a substantial income accrued to the state from the fines imposed on thieves and wrong-doers. Nārada and Bṛihaspati give ample evidence of this, and in many of our inscriptions the fines imposed on criminals are mentioned[2] as either included in or excluded from the Grant.

Thus, from the above analysis, we see that in the Gupta period there were several impositions besides the usual one-sixth customary due. It may be that the *bhāga-bhoga, kara, hiraṇya, suvarṇa, dhānya,*

[6] Nār. XVIII. 38.
[7] Fleet, pp. 193, 198, 238, 246; E.I. XV. p. 42; I.H.Q. XVII. p. 115; J.A.S.B. (N.S.) XX. p. 53.
[8] Nār. VII 6—7.
[9] Fleet, pp. 238, 246; E.I. XV. p. 42; J.A.S.B. (N.S.) XX. p. 53.
[10] Arth. Tr. 3rd Ed., p. 58.
[1] H.R.S., p. 293.
[1a] Select Ins. I. p. 414 f.n. 8.
[2] Fleet, pp. 108, 115, 118, 122, 238, 247; E.I. VIII. p. 287; J.A.S.B. (N.S.) XX. p. 53.

etc. do not imply different impositions. The mention of some of them in our inscriptions may be purely conventional, for it is hardly possible that the citizens could pay all these taxes in any given year. Though taxation was no doubt at all times heavy by modern standards, the many fiscal terms in our inscriptions may in part refer to temporary or emergency taxes.

The famous Chinese pilgrim Fa-hsien gives a picture very different from that of the inscriptions. In the course of his descriptions of the Middle Kingdom, which is the Madhyadeśa of the Brāhmanical writers, signifying roughly the central province of the Gupta empire, Fa-hsien remarks, "only those who cultivate the royal land have to pay (a portion of) the grain from it".[3] This has been interpreted by Dr. Smith[4] and Dr. Beni Prasad[5] to imply that the revenue was mainly drawn from the rents of the crown lands. But the statement of Fa-hsien is probably fallacious. From the account of his travels, we know that he only moves from monastery to monastery, and most monasteries enjoyed revenue-free land. Moreover, it seems that he had heard of crown lands, let out to rent-paying cultivators, but that he believed that the rest of the arable land of India was, like the monastic estates, free of tax. Finally, he probably did not write his account immediately after his return from India and consequently he, as a Buddhist monk, might have forgotten many salient features of secular life. So some of his other statements are almost certainly exaggerated or even untrue. Thus he states, "Throughout the whole country (of Mathurā) the people do not kill any living creature, not drink intoxicating liquor, not eat onions or garlic.... In that country they do not keep pigs and fowls, and do not sell live cattle; in the market there are no butchers shops and no dealers in intoxicating drink. In buying and selling commodities they use *cowries*".[6] But there are numerous references to wine-drinking in Kālidāsa, and that gold, silver and copper coins were used in daily life may be proved from epigraphy and numismatics.

Ghoshal[7] gives another possible explanation of Fa-hsien's statement on Indian land tenure. The import of his account can be understood in the light of the conditions of land tenure and land revenue in China in the time of the pilgrim and earlier. In ancient China the fundamental characteristic of the public economy was the system of the

[3] Legge, pp. 42-43.
[4] Early Hist. of India, 4th Ed. p. 314.
[5] The State in Ant. India, p. 285.
[6] Legge. p. 43.
[7] H.R.S. pp. 225-227.

public distribution of land known as "*Tsing Tien* system".[8] It is attributed to the legendary emperor Huang-ti (2698 B.C.). Huang-ti, following the principle of *Tsing Tien,* divided his "established Kingdoms of 100 li square" into ten thousand, and each of them was again subdivided into nine plots. To eight families were assigned the eight exterior plots, but the central plot was reserved to be worked in common. Thus the whole land of the Kingdom "was distributed to families in groups of eight and was practically rented from the government, rent being paid by labour on the central plot with reservation to the government on death or disability".[9] This form of State Socialism was replaced by the private ownership of land in 350 B.C.[10] But it was revived in a qualified form in A.D. 280, and continued till A.D. 755.[1] But according to Dr. Chang, after A.D. 713-755 "the *Tsing Tien* system never has been revived again".[2] Thus, Fa-hsien has most probably confused the Indian system of land revenue with that of his own country.

As we have seen earlier, certain good general principles are laid down by Kāmandaka, and others, in favour of moderate taxation, though in actual practice perhaps these were not always faithfully followed. In the earlier period, from the Jātaka stories, we find numerous references to oppressive taxation.[3] Sometimes, unable to pay heavy taxes, the people had to leave their villages or towns and had to take shelter on the borders of the realm.[4] But we have no direct references of this kind in our period. There are, however, some indirect references to the possibility of tax-paying cultivators and artizans, etc., leaving their own village, and settling in the newly donated village.[5] In view of this situation the King warned the donee not to accept any new tenants from outside, who had previously paid royal dues to the treasury.

It is, of course, true that taxation at all periods in India was comparatively oppressive. Akbar collected one-third of the produce as royal revenue[6] and the Native States in the British period used to collect two-fifths of the total produce.[7] Even today in Bengal the rent

[8] Lee's "The Econ. Hist. of China" in Columbia University's "Studies in History, Econ....etc." Vol. 99. pp. 33-37.
[9] Lee—Ibid. p. 34.
[10] Ibid. p. 441.
[1] Ibid. pp. 441-451; Also vide "The Eco. Principles of Confucius and His Schools". Vol. II. pp. 497-533.
[2] The Eco. Principles etc. p. 520.
[3] Jāt. I. No. 77; II. No. 240; IV. No. 478; V. No. 520; VI. No. 543.
[4] Jāt. I. No. 77; V. No. 520.
[5] The Spurious Gaya Pl. of Samudragupta—Fleet. p. 257; also E.I. xxv. p. 53.
[6] Baden Powell's—Land System of British India I. Ch. V. p. 275.
[7] Ibid. p. 271.

of *Khās* land (i.e. owned directly by the State and not by *zamindar*) varies from Rs. 1 – 10 annas (about shillings 2 – 6) to Rs. 4 (more than 6 shillings) per *bighā* (1/3 of an acre), without taking into account the actual produce of the land, and this land revenue is certainly high in comparison to the output and the cost of cultivation of land.

Moreover, in all periods there were other taxes besides the basic land-tax. All the rates which can be ascertained in practice are considerably higher than the standard share of 1/6th laid down in the law books. Megasthenes and the Arthaśāstra indicate that in the earlier period the share was $\frac{1}{4}$ or more. From the account of Fa-hsien and the overall impression given by our very inadequate sources, it would seem that in Gupta times the royal share was at least as much. The total tax paid by the peasant, with numerous extra dues besides this basic tax, must have been often oppressive, though perhaps not so oppressive as in the less fortunate periods of Indian history.

Chapter IV

AGRICULTURE, FAMINE, IRRIGATION, FORESTRY, GARDENING AND ANIMAL HUSBANDRY

I. Agriculture:

Although there are many references to officers, merchants and artisans in our period, the economic life of northern India was chiefly agricultural, as it is even today.

The term *vārtā* (livelihood) was well known in the earlier[1] period. In the later period Kāmandaka says that the means of subsistence of a Vaiśya are cattle-rearing, cultivation and trade;[2] and that the occupation of those who live by these means is called *vārtā*. *Vārtā* was recognised as being so important for the welfare of society that Kāmandaka advised that those who were proficient in *vārtā* should be assured of freedom from want.[3] Kālidāsa includes cultivation, animal husbandry, etc. within it as a great source of national wealth.[4] In the later period Śukra gives a much more detailed definition of *vārtā*, which, for him, included usury, agriculture, commerce, and cattle-breeding.[5] Thus, agriculture was one of the most important sources of wealth in ancient India, and the proper knowledge of agriculture, husbandry, and trade was encouraged in ancient society.

As we have seen elsewhere, there was a great demand for land for cultivation and habitation. The cultivable and uncultivable waste was gradually brought under the plough, probably as a result of the gradual increase of population. Considering these factors, Nārada recommends that when the owner of a field is unable to cultivate his land, or is dead or gone no one knows whither, any stranger who undertakes its cultivation unchecked by the owner or others should be allowed to keep the produce.[6] Here it may be presumed that his right over this land might be questioned at any time by the original owner of it. But when the owner returns, while the stranger is engaged in cultivating the field, the owner of the land recovers his field after having paid to the cultivator the whole expense incurred in tilling the waste.[7]

[1] Arth. I. 4. p. 8.
[2] Kāman. II. 20.
[3] Ibid. 14.
[4] Raghu XVI. 2.
[5] Śuk. I. 311-12
[6] Nār. XI. 23.
[7] Ibid. 24.

Thus in our period the land was not allowed to remain fallow for an indefinite period, but others were induced to make it productive. Moreover, for the encouragement of agriculture and settlement the King granted quite large areas of cultivable land. These were donated free of royal revenue, possibly in view of the fact that the donee might be able to make the land productive. In the Gunāigarh Grant of Vainyagupta,[8] the Damodarpur copper plates,[9] the Paharpur copper plate[10] and the Baigram copper plate[1] the purchasers applied for the waste-land, probably because of its cheap price and because freedom from tax was more easily obtained from the state in the case of religious donations of uncultivated land than in that of land already tilled. From a somewhat later inscription it is clear that lands in the forest region were given to the Brāhmaṇas for their maintenance.[2] In the later period Śukra lays down certain benevolent rules for the reclaiming of waste lands; if people undertake new industries or cultivate new lands and dig tanks, canals, wells, etc. for their improvement, the King should not demand anything of them, until they realise profit amounting to twice their expenditure.[3]

Moreover, the establishment of irrigation works in many parts of northern India, which we shall consider later, gave a further impetus to the growth of agriculture, even in the dry and barren lands. The lands were gradually brought into cultivation by a number of agencies besides the state and the individual cultivators, such as the Brāhmaṇas, and the Buddhist and the Jain *Saṃghas*. By their joint efforts new habitations had grown up and the bushes and jungles were cleared for cultivation, and the state most gladly lent their charitable aid by remitting royal dues.

Thus the importance of agriculture was recognised in both religious and secular society. We have seen that, according to Kālidāsa, even the *ṛishis* utilised lands for the purpose of cultivation and produced different kinds of corn for their own maintenance in the fields adjoining the *āśramas*.[4] So the King Raghu asked Kākushtha,[5] "whether the grain-eating animals of the village do harm to the *nīvāra*-paddies, which are the source of your maintenance and that of your guests as well".

[8] I.H.Q. VI, Text pp. 53-56.
[9] E.I. XV. p. 113, Pl. I.; Pls. 3 & 5.
[10] E.I. XX. p. 62.
[1] E.I. XXI. p. 81.
[2] The Tiparah Pl. E.I.—XV. p. 307.
[3] Śuk. IV, II. pp. 242-244.
[4] Raghu I, 52; Śak IV, p. 903; Śak II, p. 850; Raghu V. 8. etc.
[5] Raghu V—9.

In consideration of its importance the stealing of food grains and other produce of the soil and of the implements of agriculture was severely dealt with. Bṛihaspati lays down that the stealers of grain shall be compelled to give ten times as much to the owner, and the double amount as a fine, apparently to the state. When a man takes grass, wood, flowers or fruits without asking permission to do so, he deserves to have a hand cut off.[6] He who steals more than ten *kumbhas* of grain should be put to death; but for stealing less than that a man should be fined eleven times the quantity stolen and should restore his property to the owner.[7] Bṛihaspati further says that he who destroys or takes implements of husbandry, an embankment, flowers, roots, or fruits, shall be fined a hundred *pāṇas* or more, according to the nature of his offence.[8] According to Nārada, destroying, disfiguring or otherwise injuring fruits, roots, water and the like, or agricultural utensils, is declared to be *sāhasa* of the first kind. The punishment to be inflicted for it must be proportionate to the heaviness of the crime, but should not be less than a hundred *pāṇas* for *sāhasa* of the first degree.[9]

It was usual for a cultivator to fence his cultivated fields and gardens, as is done even today in many parts of India. It is laid down that when grain has been destroyed by cows or other cattle crossing a fence the herdsman should be punished, unless he has done his best to keep the cattle off. But when grain has been destroyed altogether with the root, the owner of it may claim a corresponding quantity of grain as damages; the herdsman shall be corporally punished; and a fine shall be imposed on his master. For mischief done by a cow, or a female buffalo, the King shall inflict a fine of one *māsha* and two *māshas* respectively; but in the case of a goat or sheep trespassing with its young, the fine shall amount to half a *māsha*.[10] But the owners of trespassing elephants and horses were not to pay any fine, for they were looked upon as the protectors of the King's subjects. Impunity is likewise granted to the owner of a strayed cow, of one that has recently calved, and of one unmanageable. When cows, straying through the fault of their keeper, have entered a field, no punishment shall be inflicted on the owner of the cows; the herdsman alone is punishable for the damage done by them.[1] It is also said that when a man claims damages for grain consumed by cattle grazing in

[6] Bṛi. XXII, pp. 23-25.
[7] Bṛi. XXII, 23.
[8] Ibid. XXIII—5.
[9] Nār. XIV. 4; 7.
[10] Nār. XI. 28; 29; 31.
[1] Nār. XI, 32; 35.

the field, that quantity of grain consumed must be restored to him by the owner of the cattle, the amount being assessed by the plaintiff's neighbours.[2] Lastly, a fine shall be imposed on the herdsman when grain has been simply trodden down by cows. But when a herdsman has been seized by the King or devoured by an alligator, or struck by Indra's thunderbolt, or bitten by a serpent, or has fallen from a tree, or has been killed by a tiger or other ferocious animal, or has been smitten by a disease of any sort, no offence can be imputed, either to the herdsman or to the owner of the cattle, if grain is destroyed by the cattle.[3]

It is also laid down that when a field is situated on the borders of a village, or contiguous to a pasture ground, or adjacent to a high road, the herdsman is not responsible for the destruction of grain in that field, if the field is not protected by a fence. Regarding fencing, Nārada gives some salutary advice to the cultivators. On that side of the field which faces the road a fence shall be made over which a camel cannot look, nor cattle or horses jump, and which a boar cannot break through.[4]

We have instance of the King asking the inhabitants of the village not to disturb cultivation of the donated land by the donee. The Mālia copper plate of Dharasena II records thus, "wherefore no one should behave so as to cause obstruction to this person in enjoying (it) in accordance with the proper conditions of a grant to a Brāhmaṇ (and) cultivating (it) (or) causing (it) to be cultivated or assigning (it to another)".[5] Two centuries later we find the same instructions to the inhabitants of the village in the Alīna copper plate of Śīlāditya VII.[6]

It is probable that in the Gupta period the holdings of most of the peasants were small and were usually cultivated by the owner and his family, as is the case even today. The fragmentation of land, which we have mentioned elsewhere, and the general nature of early agriculture, point to this conclusion. There were also some larger holdings, like the eleven *pāṭakas* of land mentioned in the Gunaigarh Plate,[7] where the owner engaged hired labour for their cultivation or let the land to share-croppers. Thus, to safeguard the interests of big landholders and hired labourers, Nārada and Bṛihaspati lay down certain rules. Where the amount of wages has not been fixed, an agricultural servant shall receive a tenth part of the produce. Their implements

[2] Nār. XI, 38; also Gaut. XII. 26; Manu VIII, 241.
[3] Nār. XI, 39; 36-37.
[4] Nār. XI. 40-41.
[5] Fleet p. 164.
[6] Ibid. p. 171.
[7] I.H.Q. VI—1930, Text. pp. 53-56.

of work, and whatever else may have been entrusted to them for their business, they shall employ with due care and not neglect them wantonly. But if one fails to perform such work as he had promised to do, he shall be compelled to perform it, first paying him his wages. If he does not perform it after having taken wages, he must pay back twice the amount of his wages.[8] Moreover among the three kinds of hired servants: soldiers, agriculturists and porters, the agriculturists form the middlemost class.[9]

Bṛihaspati classifies agricultural servants in the categories of low, middle and high, according to their grain share or pay.[10] He then goes a step further than Nārada and says that a third or a fifth of the produce shall be awarded to the cultivator of the soil as his share.[1] Those who cultivate the soil, taking food and clothing from the master, should receive one-fifth of the crop, but those who work without taking food and clothing should take one-third of the produce.[2] For the benefit of the owner of the soil Bṛihaspati also lays down certain rules. If a hired servant fails in the performance of even a small part of his master's work, he forfeits his wages and may be sued in court for his offence. When a servant does not perform his work after having received his wages, though able to do work, he shall be compelled to pay twice as much as his wages as a fine to the King, and shall restore the wages to his master.[3]

We have already classified land under several broad divisions. It may also be divided broadly under two heads, viz., fit for cultivation and unfit for cultivation. All the cultivable lands were not fit for producing every kind of crop. Some were capable of producing rice, sugarcane, etc., where rainfall was plentiful, as in the lower Gangetic delta; others were fit for wheat, barley, maize, as in the upper reaches of the Ganges, Sind, Rājasthān, Punjab, etc. However, for the germination, plantation and the growth of the plants, water is essential.

Thus there are many references to artificial irrigation in our period, as we shall see later. But the importance of rainfall was also fully recognised. Varāhamihira, in his *Bṛihatsaṃhitā* deals elaborately with meteorological observations, leading to predictions whether of sufficient rainfall, too much rainfall causing floods, or scarcity of water and the consequent dearth of crops. His work is full of references both

[8] Nār. VI 3-5.
[9] Nār. V. 23 and Bṛi. XV. 13.
[10] Bṛi. XV. 9.
[1] Ibid. XV. 14; XVI. I.
[2] Ibid. XVI 1-2.
[3] Bṛi. XVI 3, 5.

to prosperity and famine[4] which show clearly the fundamental precariousness and dependence upon nature of the economic life of India, even in this, one of her most prosperous and stable periods.

Methods of cultivation were quite elaborate. Ploughs drawn by oxen were used for cultivation. According to Amara, the plough[5] consisted of the following parts, the pole or shaft of the yoke, the pin of the yoke, the ploughshare and the tie of the yoke. The cultivators apparently used iron ploughshares, for according to Bṛihaspati iron twelve *palas* in weight should be formed into a ploughshare. It should be eight *aṅgulas* long by four *aṅgulas* broad[6] or approximately 6 inches by 3. Smaller than that of modern Europe, such a ploughshare could only be used for shallow cultivation, and we must assume that this was the practice in Gupta India, as it is today. But Cosmas said that some people used the thick skin of the rhinoceros in their plough instead of iron.[7] Such a practice, though not attested in any other source, is not wholly impossible, since the hide of the rhinoceros is about 2 inches thick, and when thoroughly dried becomes almost as hard as metal. We do not know how many oxen were employed in a single plough in our period. But in the later period Śukra lays down that the Brāhmaṇs should have sixteen oxen to their ploughs, the Kshatriyas twelve, the Vaiśyas eight, the Śudras four and *antyajas* (later known as untouchables) two only.[8] This scheme, however, seems fanciful, a typical product of the Brāhmaṇic passion for classification. Nowadays only two oxen are used in a normal plough.

Lands were often carefully prepared for sowing various kinds of crops, but there is reference to the idle cultivator who ploughed his field very roughly and then sowed his seed, and who consequently could not expect a good yield. A good cultivator would cultivate his land twice or thrice before sowing seed. After that a certain measure of seed was sown there. A spade or hoe was used for loosening the soil for the encouragement of seedlings. When the corn was ripe, sickles were used to reap it. It was then gathered on the threshing floor, where it was threshed and winnowed; the straw and the grain were thus separated.[9]

The *Amarakośa* gives very interesting details about the husking of corn. Just as in the village today, a pestle was used for pounding corn and then the husk was separated from the grain by a winnowing basket;

[4] Appendix I.
[5] Amar. 9, 13-14. p. 203.
[6] Bṛi. VIII 79-80.
[7] Cosmas XI. p. 358.
[8] Śuk. IV, III 38-39.
[9] Amar. IX. 8, 9, 10, 12, 13, 15, 22, 23. pp. 202-205.

the grain was then sacked and carefully stored in a granary.[10] Moreover, the unhusked grains (or paddy) were probably stored in the granary in the manner of today.

The Bṛihatsamhitā gives interesting advice on the cultivation of trees.[1] A soft soil, it is said, is favourable to all sorts of trees. Let one thereon sow sesamum, which must be reaped when in bloom. This is the first work to prepare the ground. This appears to be a form of green manuring, which is still practised in certain parts of India. Then plant in the garden or by the house, in the first place, auspicious trees. Bread-fruit, plantain, rose-apple, pomegranate, grape, are trees that, on being smeared with cow-dung, should be planted by slips or carefully grafted on the root-stump or stem of a different tree. Young trees, as yet having no branches, must be transplanted in the dewy (autumn) season, those that have developed branches in winter, and those with larger stems, in the rainy season, care being taken that they are stationed in the particular direction suiting them properly. This practice of transplanting is closely followed by the modern peasants of India.

The Bṛihatsamhitā further advises that trees, when being transplanted, should be smeared all over the stem down to the root with ghee, oil, wax, milk and cow-dung.[2] The planter, duly purified, should pay honour to the tree with washing and unguents before planting it. The tree, once set, will show the same foliage as it had before. When the trees have been planted, they need to be watered morning and evening in summer, during the day in the cold season, and whenever the soil is dry during the rains.[3]

Rose-apple, fig, grape, pomegranate, bread-fruit, etc., are the trees which, according to the generally accepted opinion, require a moist ground. The greatest space to be left between two trees is twenty cubits (about 30 feet), the middling sixteen (24 feet), and the smallest twelve (18 feet).[4] Like Varāhamihira, Khanā, of the middle ages, also recommends that one should plant coconuts twelve cubits and betel-nut palms eight cubits apart, and this spacing is most popular among the Bengal peasants of today.[5] Trees, which, by growing too close together, touch each other, and get their roots intertwined, are hindered

[10] Ibid. IX. 22, 25, 26. pp. 204-205.
[1] Bṛihat. LV, 2-6.
[2] Ibid. LV. 7.
[3] Bṛihat.. LV. 8-9.
[4] Ibid. LV. 10-12.
[5] Khanā's popular saying in Bengali—"*Nārikela vāro, supāri āta, era ghaṇatakhani kāṭa*".
"If you want better fruits, you have to plant coconut plants twelve cubits and betel-nut plants eight cubits apart and if they are not planted according to this principle, you have to reduce some of them".

in growth and do not yield fruit properly.[6] All these practices are more or less followed by present day Indian peasants in tree plantation, including the religious rites.

By the agency of cold, wind or heat, diseases of trees are engendered,—either faded colour of foliage, stunted growth of shoots, sereness of branches, or flowing out of sap. To heal the trees the cultivators are advised first to trim them with a knife, then to smear them with ghee and mud, and to sprinkle them with milk and water. Moreover, if a tree loses its power of bearing fruits, a sprinkling with milk mixed with powdered peas, sesamum and barley, will be conducive to a revival of the growth of fruits and blossoms.[7] To promote the growth of the fruits and blossoms of trees, creepers, shrubs and plants, at all times, the cultivator is advised to sprinkle them with a mixture of two *āḍhakas* of dung from sheep and goats in the form of powder, with one *āḍhaka* of sesamum seeds, one *prastha* of flour, one *droṇa* of water, and one *tulā* of cow's flesh,[8] the whole to be infused during a week.[9] Similar practices with certain alterations are followed even today by Indian cultivators.

Varāhamihira further advises that before being sown a seed should be steeped in milk, and then handled with a hand greased with ghee; moreover, it should be repeatedly rubbed with cow-dung and mixed with the flesh of hog and deer; then, with an addition of fish-blubber and hog's suet, it should be planted in prepared soil, after ten days. If sprinkled with milk and water, it will grow and bloom. A tamarind produces a sprout, when sprinkled with a compound of ground rice, peas, sesamum, flour and stale flesh, and afterwards repeatedly mixed with turmeric. For making the wood-apple seed shoot, a powder made from the roots of various trees was recommended. After being mixed with them, a wood-apple seed should remain during a hundred pulsations in milk that has been boiled, and afterwards wholly cooked. It should then be dried for a month in the sun's rays and after that might be planted.[10] Obviously all kinds of seeds do not require this elaborate process of germination. The shells of certain seeds are very soft and they are very simply germinated. But certain seeds having very hard shells require special procedure, as suggested by Varāhamihira. Certain similar methods are followed even today by the peasants of India

[6] Bṛihat. LV. 13.
[7] Bṛihat LV 14—16.
[8] In view of the great sanctity of the cow, we must assume that this was the flesh of animals which died a natural death.
[9] Bṛihat LV. 17-18.
[10] Bṛihat LV 19-23.

The process of plantation is given by Varāhamihira as follows: Dig a round pit, a cubit in diameter and twice as deep, and fill it with water; wait until the pit is thoroughly dry; then smear it with honey and ghee mixed with ashes. Fill it up again with ground peas, sesamum, barley and clay; add to it an infusion from a mixture of water with fish and flesh; pound all this until it becomes a thick mass.[1] Plant a seed to a depth of four digits, and sprinkle it with an infusion of water blended with fish and flesh. But this seems to us an ideal method of plantation which was not followed on every occasion. Sometimes even today certain amateur gardeners in India follow complicated methods similar to that suggested by our astronomer. But most of these methods are not followed by ordinary cultivators.

Varāhamihira further advises the cultivators to plant trees under the influence of auspicious stars and planets;[2] and this is also sometimes followed by old peasants of today.

The Greek writers say that India has a double rainfall and that the Indian generally gathers two harvests.[3] Eratosthenēs says "India is watered by the summer rains, and the plains are over-flowed. During these rains, accordingly, flax is sown and millet, also sesamum, rice and *bosmorum*(?), and in the winter time wheat, barley, pulse, and other esculent fruits unknown to us".[4] But in some parts of India at least, there were three harvests in the Gupta period, for in the Bṛihatsamhitā we have reference to summer crops,[5] autumnal crops[6] and vernal crops.[7] Thus, the crops which were sown in summer would be duly ripened in *Śrāvaṇa*[8] or in the early part of autumn, and would be known as autumn crops. The grain sown in autumn[9] would be harvested in spring and was known as spring crops. Lastly, the crops which were sown in early spring would ripen in *Chaitra* or *Vaiśākha*.[10] Probably the latter crops were not staple crops such as rice, wheat, etc., but pulses,[1] beans, and other vegetables, for they take only three to four months time to ripen, whereas the two other kinds of crops require six months.

Before cultivating a piece of land a good cultivator was advised to

[1] Bṛihat LV. 24-25.
[2] Bṛihat LV. 31.
[3] MacCrindle's Megas. and Arri. p. 54.
[4] Ibid. p. 55.
[5] Bṛihat XL 2-3; XXV 2; IX 43; VIII 47.
[6] Ibid. XXVII, I; XXV 2; X 18; IX 42; V 21, 27, 78 & 90.
[7] Ibid. XXVII I.
[8] Bṛihat VIII 12.
[9] Ibid. V. 78 & 90.
[10] Ibid. VIII 8 & 9.
[1] Bṛihat. VIII 8.

follow certain conventions and practices. He should refrain from cultivating an enclosed pasture-ground, land adjacent to a town, or to the King's highway, barren soil, and ground infested by mice. Bṛihaspati declares that a man will enjoy his produce who sows in fertile land, which has many holes, is wet, is capable of irrigation, is surrounded by fields on all sides, and is cultivated in due season.[2] The rules of cultivation in proper time were probably followed all over India.[3] Moreover, a sensible cultivator should not use cattle for cultivation which are lean, very old, small, diseased, apt to run away, blind of one eye or lame.[4]

In our period many crops[5] were cultivated and grown. They may be classified as (i) cereals, (ii) pulses, (iii) oilseeds, (iv) fibres, (v) dyes, (vi) drugs, (vii) spices, (viii) vegetables, (ix) pot-herbs, (x) fruits and (xi) fodder. This division, however, is not strictly logical, as some of the crops fall into more than one of the classes. A brief account of the chief crops is given below.

Rice was grown in the areas of heavy rainfall; Bengal, Assam, Orissa, and the coastal districts of Bombay and Madras are the present day centres of rice cultivation. But in our period we do not know much about its cultivation in those areas, but the paddy grown in the fields of Bengal is frequently referred to in Kālidāsa.[6] Without any specification Varāhamihira speaks generally about rice fields and the countries of rice production.[7]

As at the present time, the varieties of rice in our period were numerous. Among them were *śāli*,[8] *kamalā*[9] *nivāra*,[10] *uñchha-paddy*[1] and *śyāmāka-paddy*.[2] Varāhamihira adds four further kinds of paddy, *kalama*, red rice, yellow rice and hog's rice.[3] Peasants are referred to as replanting the seedlings of *śāli-paddy*;[4] but it is not clearly stated that other types were replanted. The practice of growing rice in a nursery bed and replanting it in the flooded fields was thus known, and probably both replanting and growing directly in the fields were

[2] Bṛi. XIII 29-30.
[3] So goes the most popular Bengali proverb, cultivation in due time is worth more than seven good sons of a cultivator—"*Sāta po eka jo*".
[4] Bṛi. XIII 31.
[5] Raghu X. 59; XVII 66.
[6] Raghu IV. 37.
[7] Bṛihat. V. 39-40; VIII 30; XIX 16-18; Ṛitu, Sec. V.I.
[8] Raghu IV 20; Ṛitu Sec. III I. 10, 16; IV Sec. I, 18; V. 16.
[9] Raghu IV 37 (it may be modern 'Kalambā' variety of Bengal paddy).
[10] Raghu I 50, V. 9; Śak I. p. 819; II. p. 850.
[1] Raghu V 8.
[2] Śak IV—Kanva p. 903.
[3] Bṛihat. XIX 4-6; XXIX 2.
[4] Raghu IV 37.

practised. At present both systems of rice cultivation are known in India, but the best yield and quality are obtained from replanted paddy. *Śāli-paddy* is most commonly transplanted in Bengal today.

The greatest wheat-producing tracts at present are the Uttar Pradesh, Punjab, Bihar, Madhya Pradesh and Rājasthān. "The conditions favourable for the growth of wheat are exactly the reverse of those of rice; consequently, we find that, broadly speaking, where rice thrives, wheat does not. Wheat is a *rabi* or winter crop, and wherever possible it is irrigated".[5] Perhaps in our period wheat was cultivated under similar conditions. The Amarakośa, however, classifies fields fit for different kinds of important crops, such as wheat, rice, barley, sesamum and pulse.[6]

Besides rice we have a large variety of other food crops in our period, such as barley, peas, lentil, beans, wheat, and pulses.[7] Among them barley, wheat and rice were the staple food of the people.

Apart from the harvesting of cereals the cultivation of vegetables was also practised. The following are mentioned by Amara,—cucumber, betel and betel-leaves, onion, garlic, pumpkin and gourd.[8] These crops were certainly cultivated by the villagers, as they are today, and we must assume that the peasants used to sell them in the markets after meeting their own needs. We have seen that even the daughters of *Ṛishis* used to water the trees, plants and vegetables with the help of small pitchers.[9]

Cultivation of sugar-cane[10] and the sugar industry were widespread. Thus the songs associated with the autumn sugarcane and rice fields are referred to in the Raghuvaṁśa, and the wives of the cultivators, sitting in the shade of the sugar-cane plants, are mentioned as guarding the *śāli* paddy. This shows that sugarcane was harvested in those areas where rice was cultivated, and, just as today, it was probably grown in land at a somewhat higher level than the rice fields, whence the wives of the cultivators could easily watch their crops.[1] The sugar-canes were generally cropped during the winter, along with winter paddy.[2] Sugar was certainly manufactured from the juice of

[5] Banerjea's Indian Econ. p. 52.
[6] Amar. 9. 6-8. pp. 201-2.
[7] Amar. 4, 150; p. 119; 9, 7, p. 201; 9, 8, p. 202; 9, 15-18, p. 203-204.
[8] Amar. 4. 118. p. 110; 4. 120, p. 111; 4. 148-149, p. 118; 4. 156-157, p. 120; Raghu IV. 42.
[9] Śak—I—King p. 821; Raghu I 50-53.
[10] Bṛihat.—VIII 30; XIX 16-18; Amar. 4. 164, p. 122; Legge, p. 24.
[1] Raghu IV, 20.
[2] Ṛitu. Sec. V. I. p. 532.

sugar-cane, for in the Amarakośa we have references to raw sugar and refined sugar.[3]

Among the fibrous crops the principal product was cotton.[4] Cotton was cultivated as a field crop at that time, for there is a reference to wild cotton[5] in our period, which implies that it was also cultivated. It was chiefly grown, as now, in Surastra or Kathiawar. Soft vegetable fibres, used nowadays for stuffing mattresses, etc., such as silk-cotton and black silk cotton[6] were also known. The cultivation of flax and hemp[7] was not unknown.

We have ample reference to edible spices, oil-crops, medicinal herbs, etc. in our period. Mustard seed, sesamum, linseed, lodhra, red lodhra, tamarind, ingudi, pryangu, black mustard, aloe, indigo, long pepper, pepper, cardamoms, cloves, large cardamoms, small cardamoms, spikenard, fragrant grass, betel-nut, ginger, turmeric and saffron[8] were produced by the peasants.

The southern part of India is mentioned by Kālidāsa as the home of pepper and cardamon, and they were grown abundantly in the valleys of mount Malaya (modern Nilgiris).[9] Cosmas calls this part of India "the pepper country".[10] All these products had a very good market throughout the country, for they were all essential commodities satisfying different human needs in every day life.

Fodder[1] is often mentioned, but we have no reference to grass being grown specially for the feeding of domestic animals, and it seems probable that the fodder was mainly in the nature of wild grass, as it is today. Moreover, the forests and gardens yielded a large variety of valuable fruits, such as mango,[2] palmyra and palm fruit, orange, jack fruit, pomegranate, grape, banana, coconut, and wild date.[3]

These are the most common and popular fruits even today in India. Some of them require further discussion here. The mango was evidently the most popular fruit in India as it finds very frequent mention in Kālidāsa and other sources. Even today it is considered the king of fruits in India, and has several varieties. *Palmyra* or Indian

[3] Amar. 9. 43. p. 209; 3, 42. p. 279.
[4] Amar. 4. 116. p. 110; Bṛihat. V. 75; XXIX. 5.
[5] Amar. 4. 116. p. 110.
[6] Amar. 4. 47-48. p. 92.
[7] Ibid. 9. 20. p. 204.
[8] Amar. 4. 33, 41, 44, 46, 55, 74, 76, 95, 97, 125, 126, 134, 160, 164, 167, 170, pp.88-124.
[9] Raghu IV. 46-47.
[10] Cosmas XI p. 364.
[1] The Mandasor Ins. of Naravarman E.I. XII. p. 315.
[2] Amar. 4. 33. p. 88 (*āmra*); Raghu VI 69 (*sahakāra*); VII 21 (*cūta*); Ṛtu-Sec. VI I, 3, 15, 22, 26, 27, 30 and 34.
[3] Amar. 4. 38, 61, 65, 108, 113, 169, 170, pp. 90-124; 5. 10. p. 353; 42. p. 356. Fleet p. 72; Legge, p. 24.

palm was a very useful tree; its juice even today provides drinks for the villagers.[4] As we have seen elsewhere, its leaves were used as writing materials. Even today in Indian villages horoscopes are written on them. Kālidāsa writes that the eastern parts of India are darkened by the exuberant growth of palm-trees.[5] This evidently refers to the palm-trees found in abundance on the eastern sea-shore. The coconut was another very useful fruit. Kālidāsa states that in the course of his *digvijaya* Raghu reached the country of Kaliṅga where his brave soldiers drank the sweet juice of coconut.[6] Cosmas also mentions coconuts as the large Indian nuts whose fruits and juice are sweet and very pleasant.[7] From that time onwards the coconut was chiefly grown in the coastal districts of Bengal, Orissa and Madras. Areca or Betel-nut[8] serves the purpose of chewing with the betel-leaves after food. It grows in the same area as the coconut. Some of the fruits, such as soap berry, orange, pomegranate, etc. are mainly grown in the hilly regions of Assam, Darjeeling, Nagpur and Kashmir. Jack fruits, mangoes and banana are chiefly grown in Bihar, Bengal, Assam and Orissa.

According to Bṛihaspati agriculture seems to have been to some extent carried on communally. He states that tillage should be undertaken by sensible man jointly with those who are his equals in point of cattle, workmen, seeds and the like, as well as in their implements of husbandry.[9] When by the deficiency of one partner as to cattle or seeds a loss happens in the produce of the field, it must be made good by him to all the husbandmen. Even today, it sometimes happens that two or three cultivators cultivate their holdings jointly.

Of course, it is true that owing to illness, famine and scarcity,[10] there was every possibility of the concentration of lands into the hands of the fortunate few. But on the death of the head of the family there was usually a partition[1] of the family lands as ordained by Nārada and Bṛihaspati. Following their principle a few generations might see the break up of a large estate. Thus, Dr. Basham[2] has said, "A real class of squires or large farmers never appeared in Hindu India" They are not seen even in modern India.

[4] Among the Bengal peasants its fermented juice is popularly known as *tāḍi* which is an intoxicating drink.
[5] Raghu IV. 34.
[6] Ibid. IV. 38, 42.
[7] Cosmas—XI. p. 362.
[8] Amar. 4, 170. p. 124.
[9] Bṛi. XIII 27.
[10] Appendix I.
[1] Nār—Sec. on the laws of inheritance XIII 1-51 & Bṛi. XXVI 9, 11, 17, 21, 24, 25, 57, 65 etc.
[2] The Wonder, etc. p. 192.

In our period, although there are numerous references of prosperous agriculture, it could not escape the wrath of nature. Side by side there are ample references to bad harvests, failure of crops, droughts, inundations, famines, diseases and the consequent sufferings and sorrows of the people.[3]

II. Famine:

Famine is the greatest national calamity known to Indian life from the earliest times to the devastating Bengal famine of A.D. 1942. It may originate from several causes, such as earthquakes, drought, pestilence, inundation, failure of crops, diseases and plagues. We have numerous references to these calamities from the Bṛihatsaṃhitā of Varāhamihira.[4]

Varāhamihira predicts several cases of excessive rainfall, and inundation causing crop-failures and famine.[5] We see from the Junagarh Rock inscription[6] of Skandagupta that the famous Sudarśana lake burst because of excessive rainfall, and that as a result the people were in a state of great distress amounting to famine. But immediate attention was given by the state, and its dams were duly repaired. This also shows the great responsibility of the state for averting the impending distress of the people. In the later period we have similar references to famine due to the seasonal spate of the Vitastā and the Mahāpadmā lake of Kāshmir.[7]

Another important cause of famine was drought, to which Varāhamihira gives numerous references.[8] No crops could be grown without water, and we have seen that the central and the north-western parts of India were not much favoured by natural irrigation. So for agricultural purposes due attempts were made by the state to provide artificial irrigation in those regions.

The corn, which was the only means of subsistence in an agricultural country like India, was sometimes destroyed by wild beasts, mice, locusts and birds.[9] This necessitated the employment of field-watchers, but occasionally the pests appeared in such numbers that watchers could not repel them. In the Raghuvaṁśa we have seen that the wives of the cultivators are mentioned as guarding the *śāli-paddy*.[10] More-

[3] Appendix I.
[4] Ibid.
[5] Ibid.
[6] Fleet 56.
[7] Rājt. V 68-71; 80; etc.
[8] Appendix I.
[9] Appendix I.
[10] Raghu IV 20.

over, fowlers and hunters rendered service to agriculture by the destruction of these pests and, if the evidence of Megasthenes is to be believed, they received in Maurya India a subsidy of grain from the king for their beneficial work,[1] though in our period they were certainly despised. Even in modern India the agricultural department of the government is trying its best to destroy locusts and monkeys for the welfare of agriculture.

Varāhamihira also predicts the occurrence of earthquakes.[2] One single earthquake can change the total geography of a region, for everything can be destroyed by a single shock.[3] Of course, we have no definite evidence of earthquakes in our period, but they were certainly known to Varāhamihira, who predicts their occurrence many times.

There are also ample references to hailstorms, pestilences, epidemics and diseases of men and the cattle.[4] Such calamities must have had some bad effect on the production of the country and in some cases might cause famine. Under such circumstances, according to one of Varāhamihira's predictions, the earth would be bedecked with a heavy load of scattered and broken bones of men who have perished by hunger and thirst; and it would appear wild and restless.[5]

Lastly, as suggested by Varāhamihira, wanton destruction through war[6] might be a cause of famine in our period. But the peace maintained by the Gupta Emperors in most of north India during much of the fourth and fifth centuries must have added to the comparative prosperity of the land.

During these natural calamities a great responsibility lay with the state. Thus, during the time of famine in the Maurya Period, the state distributed relief in cash and kind to the people.[7]

We have no such direct reference of relief measures in our period. All that we have are certain indirect references to scarcity and famine. In the Mālia copper plate of Dharasena II it is stated that the king averts calamities that would afflict his subjects. In the same inscription his wealth is stated to be the sustenance of the poor, the helpless and the feeble.[8] In the Allāhābād Pillar inscription, Samudragupta is described as busy with the support and help to the miserable, the poor, the helpless and afflicted.[9] Again, in the Gwalior stone inscription,

[1] McCrindle p. 84.
[2] Appendix I.
[3] For example, the devastating earthquake of Bihar on 15th Jan. 1934.
[4] Appendix I.
[5] Brihat. XXVII. 4.
[6] Appendix I.
[7] The Mahāsthān Pl. E.I. XXI. p. 85. The Sohgaurā Pl. E.I. XXII. p. 2.
[8] Fleet. p. 165.
[9] Fleet. p. 8.

Mihirakula is stated to be the remover of all distress.[10] Bṛihaspati also suggests that one of the important functions of the village elders is to relieve the helpless and poor.[1]

Though we have no definite evidence of the occurrence and the character of famine in our period, it is certain that cross-country communications were then very slow and sometimes very difficult. Caravans and boats were the only means by which surplus agricultural and industrial products could be transported from one place to another, and hence any relief measures for an afflicted area were neither immediate nor easy. We have no detailed evidence of the local incidents of famine in our period, though we have the description of one in the *Daśa-kumāra-charita,* written a century or so after our period.[2] But the greater extent of forests which might provide some measure of emergency food supply in the form of edible roots, fruits and leaves, may well have been a mitigating factor.

III. Irrigation:

From the earliest times India has been an agricultural country; and in many parts of India her agriculture largely depends upon irrigation. There are two types of irrigation, natural and artificial.

Natural irrigation is obtained through rivers, lakes, springs and rainfall. Northern India is blessed with many rivers as a source of perennial water supply. Moreover, north-eastern India is copiously watered by the two monsoons. But the central and the north-western parts of India are not much favoured by rainfall and rivers. As a result in these parts of India, from the very earliest times, the state and the people have excavated tanks, lakes, pools and wells for irrigation.

Thus irrigation by human effort is quite indispensable in many parts of northern India. Kāmandaka states that a land, adorned with crops, rich in mines, minerals, etc., copiously watered and not depending upon showers of rain for agricultural purposes, is specially favourable to the welfare and prosperity of the people.[3] The importance of irrigation is also duly considered by our Smṛiti writers. At first Nārada classifies the dikes, according to their respective utility. There are two sorts of dikes or water-courses,—one called *kheya* which is dug into the ground, and another called *bandhya* which prevents the

[10] Fleet. p. 162.
[1] Bṛi. XVII 11-12.
[2] Daṇḍin VI. p. 157.
[3] Kām. IV. 51-52.

access of water. The former serves the purpose of irrigation, and the latter protects the field from excessive water.[4]

Considering the importance of irrigation Nārada further states that a man with the permission of the owner can restore a dike which has fallen into decay. But without the permission of the owner he cannot use it. However, after the death of the owner he may repair the dike, after having been authorised to do so by the King.[5]

It has thus impossible for the state to promote prosperity, if no proper arrangements were made for irrigation. The almost complete dependence of ancient peasants in many parts of India on irrigation is witnessed from the Junagarh rock inscription of Skandagupta.[6] There are described the total disaster and the utter helplessness of the people, when the Sudarśana lake burst its embankments.

Moreover, the fertility of the soil is greatly enhanced by artificial irrigation, where there are no natural irrigation facilities, and as a result agricultural produce is greatly increased. This can be well shown from the later accounts of Kāshmir, for there can be little doubt that the same considerations applied in Gupta India. Kalhaṇa's Rājataraṅginī portrays a picture of Kāshmir suffering from chronic famine under devastating floods caused by the seasonal spate of the Vitastā and the Mahāpadmā lake. King Lalitāditya (A.D. 740-776) effected improvements by distributing the water of the rivers to various villages by constructing a series of water-wheels. As a result of this, the produce of the soil was somewhat increased. But after the death of Jayāpīḍa the country was again overtaken by disastrous floods and famine. These natural calamities were completely averted during the reign of Avantivarman (A.D. c. 855-883). In order to stop floods his able minister Sūyya excavated several irrigation canals and constructed many dams, which helped the country to attain prosperity.[7]

In the Gupta period canals were constructed from the rivers or tanks and were taken to the far distant fields for their irrigation. The canals also helped to stop inundation by rivers, for they are also referred to as *jalanirgamaḥ* (drains) in the Amarakośa.[8]

There were also tanks which served both for providing drinking water and irrigating the adjoining area. These were denoted by several terms, e.g. *vāpī*[9] which appears to have been usually employed

[4] Nār. XI. 18.
[5] Nār. XI. 20-21.
[6] Fleet p. 56.
[7] Rājt IV. 191; V. 69-72; 80-121.
[8] Amar. 9, 7, p. 62; 9, 36. p. 67.
[9] Fleet. pp. 75, 166, 199. E.I. XI Pl. I. p. 107. Pl. 2. p. 111. Pl. 3. p. 113.

for a tank of smallest size; *taḍāga,*[10] which in modern Bengali usage (which may reflect that of our period) implies a larger tank; and *dirghikā,*[1] which etymologically suggests a tank of oblong shape, and is used in modern Bengal to imply a tank of very large size.[2]

The lakes were often of very large proportions, as we can see from the references to the Sudarśana lake.[3] This lake, at the foot of Girnār Hills, burst in consequence of excessive rainfall; and the most able governor Chakrapālita reconstructed its dams after two months' effort and the expenditure of much money. Fleet believes on the reference of the inscription that the embankment made by Chakrapālita was 100 cubits in length, 68 cubits in breadth and seven man's height (i.e. about 31½ cubits) in elevation. But the Junagardh Rock inscription of Rudradāman[4] records that the dam near the foot of the hill was much larger, for a breach of 420 cubits long was repaired by the governor of Rudradāman. Thus it seems that in each inscription reference is made not to the length of the whole embankment but to the size of the breach caused by the flood. In any case, the evidence shows that Sudarśana was a very large lake[5] though its size is not definitely known to us. A thorough survey of the site might throw light on the size of the original dam, but so far this has not been done. The prosperity of the people of that area largely depended on it, as can be seen from its existence from Mauryan times and the eagerness of the ancient kings to maintain its dams.

There are also references to wells (*kūpa*) in our period. The Gangdhār stone inscription of Viśvavarman[6] refers to a well in Gangdhār in the modern district of Jalalabad in Malwa. The Amarakośa also refers to this type of well.[7] On modern analogy these were used for the irrigation of small plots of land, as well as for drinking water.

[10] Fleet. pp. 75, 199.
[1] Fleet. p. 75; Amar. 9. 28. p. 66; Māl. I. p. 1010.
[2] cf. The *Sarsaṁkhā-dīghi* of West-Midnapore district, which is popularly known as excavated by Śaśāṅka, King of Gauḍa, is about 1/3rd mile in length and a little less in breadth; and there are also many other *dīghis* of very big sizes in many other parts of Bengal.
[3] Fleet. p. 56 and E.I. VIII 43.
[4] E.I.—VIII. p. 43.
[5] cf. J.B.B.R.A.S. XVIII 1890-1894. pp. 47-55. The Sudarśana or Lake Beautiful of the Girnār Ins. B.C. 300—A.D. 450—by Mr. Ardesser Jamsedjee —Naib Diwān of Junāgadh—Acc. to him the dams were constructed from the river Sonrekhā to the "Inscription Rock" and there were remains of lakes. In his estimation the first lake in its full form "would cover 140 acres, and the second about 138 more or 278 acres in all". p. 54.
[6] Fleet. p. 76.
[7] Amar. 9. 10. p. 62.

Thus, both the state and the people[8] gave proper attention to the construction and repair of irrigation works. The King himself took the initiative in their construction.[9]

Occasionally the state incurred heavy expenditure for the repair of irrigation works. As we have seen, during the reign of Skandagupta the state expended much money for the repair of the dam of the Sudarśana lake.[10] Moreover, considering the economic importance of irrigation and agriculture, irrigation works were duly protected by the state. Fines and punishments were imposed on those who caused damage to them. Bṛihaspati lays down that he who destroys an embankment shall be fined 100 *Paṇas* or more, according to the nature of offence.[1]

IV. Forestry, Gardening:

Forests exist even today in large tracts of India. At present the forest areas include much of the Tarai region, the Assam valley, the Sundarbans and the lower Gangetic delta, some parts of Central India, Chota Nagpur, Western Ghats and the Nilgiri Hills. But in ancient times the forest areas were probably much larger. In the Gupta period some forest regions even formed independent kingdoms under tribal chieftains, probably non-Aryan, for in course of marching from Magadha to Kaliṅga Samudragupta defeated all the forest kingdoms on the way.[2] The Khoh copper-plate of Hastin mentions the eighteen forest Kingdoms which were inherited by him together with the Kingdom of Ḍabhālā.[3] Varāhamihira also refers to the forest kingdoms lying in the north-eastern division of India.[4] Kālidāsa in his works gives numerous references to forests.

The economic importance of forests was much greater than their military importance. They helped to promote sufficient rainfall in the adjoining lands and retained the moisture of the land, and thereby made it much more productive. They afforded food and shelter in time of calamity. They were essential for their rich economic products. Thus, in the earlier period, the economic products of the forests are divided into several groups (*varga*) by Kauṭilya. They were (i) strong timber (*sāradāru*), (ii) timber of the bamboo type (*vēṇu*), (iii) creepers

[8] The Tusam R.E.—Fleet—269—By one Sōmatrāta.
[9] Fleet. pp. 56, 75, 150, 164, 196; E.I. XI. p. 104. Pl. 1, 2, 3.
[10] Fleet. p. 56.
[1] Bṛi. XXIII, 5.
[2] Fleet. p. 7.
[3] Fleet. p. 114.
[4] Bṛihat XIV. 29. 30: *"vana-rāshtra"* (forest countries) and *"vana-rājyā"* (forest kingdoms).

(*vallī*), (iv) fibrous plants (*valka*), (v) plants yielding ropemaking material (*rajjubhāṇḍa*), (vi) plants yielding leaves for writing material, (vii) plants yielding flowers productive of dyes, (viii) medicinal herbs (*aushadhavarga*), (ix) poisonous drugs (*vishavarga*) and (x) fruit trees. A catalogue of flora is also incorporated under each section. Animal produce, minerals, charcoal, menageries of beasts, firewood and fodder also find enumeration.[5] Thus, with a view to procure these varieties of forest produce, Kauṭilya recommends one or several reserved forests.[6]

Kālidāsa gives an elaborate account of the forests and forest produce. The wild, extensively growing forests, produced besides building timber and fuel, the sacred skin of *ruru*[7] and other skins,[8] musk[9] (*mṛiganābhi*) obtained from the navel of the roaming deer, lac[10] (*lākshā*) furnishing women with their various dyes, and the yak-tail[1] (*chamarī*) so commonly used as a symbol of royalty and serving as a flywhisk. Yaks and musk deer specially abounded in the Himalayan region; and even today they are found there. Elephants were caught from the forests of Kaliṅga, Kāmarūpa and Aṅga.[2]

Elephants formed one of the mainstays of the ancient Indian army.[3] After their death their tusks[4] provided precious ivory. The forest also supplied materials for making river-going and sea-going vessels of war and trade.[5]

The Himalayan region, besides yielding mineral dusts[6] of various kinds, grew the *sāla*[7] in large quantity, which served as the best wood for building.

Gardens and parks abounded[8] in the neighbourhood of the cities. They supplied flowers, vegetables and rest for the people. There were also pleasure gardens (*Pramadavana*),[9] attached to palaces or houses of the Kings and the rich people. And considering their immense utility, trees and plants were nurtured with fostering care. Plants

[5] Arth. ii, 17. p. 100.
[6] Ibid. ii, 2. p. 49.
[7] Raghu III. 31.
[8] Raghu IV. 65.
[9] Ṛitu sec. VI, 12; Amar. 6, 129. p. 160.
[10] Amar. 5, 10. p. 346; Meg. Sec. II. 13, p. 486.
[1] Kum. I. 13.
[2] Raghu IV 40; IV. 83; VI. 27. (Indirect ref.).
[3] Raghu IV. 40; VI. 54 (indirect ref.).
[4] Ibid. V. 72; XVII, 21.
[5] Ibid. IV, 31, 36; XIV. 30; XVI 68; XVII 81; Śak VI. p. 962.
[6] Raghu IV, 71.
[7] Ibid. I. 38.
[8] Raghu VI, 35; XIV. 30.
[9] Māl. III p. 1043; Vikram II, p. 1150.

seem to have been loved as though they were pet animals and ladies themselves watered them with loving hands.[10]

The gardens were irrigated by means of narrow drains (*Kulyā*) with full running water, and the circular ditch (*ālavāla or ādhārabandha*) round the trees was filled with water.[1] Thus Kālidāsa says that it was a pleasure to see the daughters of hermits watering the small plants of the hermitage with jars.[2]

In view of the great economic importance of the forests and gardens the state appointed a royal official, who was known as the superintendent of forests and woods. The Bihar Stone Pillar inscription of Skandagupta[3] refers to the three royal officers, *āgrahārika*, *śaulkika* and *gaulmika*. Of these the *gaulmika* seems to be the same as the *gulmādhyaksha*, mentioned by Kauṭilya,[4] who is the superintendent of forests (*gulma*). But there is some controversy regarding the interpretation of this term. Basak suggests that *gaulmika* was the officer-in-charge of the *gulma* squadrons.[5] Ghoshal explains the term as the collector of customs duties, and refers to *gulmadeya* used in the Arthaśāstra as dues paid at the military police stations.[6] But there seems to be no sufficient reason to reject Fleet's interpretation of *gulmika* as the superintendent of forests. These officers probably looked after the state forests, collected forest products and dues from the wood-cutters and merchants, and imposed fines on those who caused damage.

V. Animal Husbandry:

In the very early stages of Aryan civilization cattle formed the principal property of the people. At that stage of culture even agriculture was not properly known. In course of time, together with the gradual development of agriculture, animal husbandry was also properly pursued and developed. In the two great epics we have thus an ample account of stock-breeding.

In our period we have also many references to animal husbandry. It was considered an important source of wealth of both the people and the state. So Kāmandaka [7] states that cattle-rearing is one of the means of livelihood of a Vaiśya. The earlier law-giver Manu also states that when the Lord of creatures created cattle, he made them

[10] Raghu I. 51-53; V. 6; XIII. 34; XIV. 78; Kum V. 14, 60; Meg. Sec. II. 14, p. 487; Śak I. pp. 822-824, 825; IV. pp. 900-902.
[1] Raghu V. 6; XII. 3.
[2] Ibid. XIV 78; Śak I. pp. 834-835.
[3] Fleet. p. 50.
[4] Arth. ii, 16. p. 99; ii, 35. p. 143; iii, 20. p. 198.
[5] E.I. XII. p. 139.
[6] H.R.S. p. 292.
[7] Supra. p. 71. f.n. 2.

over to the Vaiśya; but to the Brāhmaṇ and to the king, he entrusted all created beings; and if a Vaiśya is willing to keep them, they must never be kept by men of other castes.[8] But in practice cattle-farming was not exclusively followed by any particular section of the people, for all the agricultural population had to depend on cattle for cultivation, for dairy produce and transport. This is also supported by earlier evidences. For instance, the King of Virāṭa in Matsya is said to have had large number of cattle.[9]

The economic value of animals at all times is chiefly for ploughing,[10] transport,[1] food, hides, ivory, horn, bone, etc. Broadly speaking we can divide them into domestic and wild animals.

Among wild animals[2] the lion, tiger, hyena, hog, monkey, bear, rhinoceros, jackal, porcupine, antelope, various kinds of deer, (*ruru* deer, the ox-deer, musk-deer, etc.) elephant, and wolf were generally known and some were of considerable economic importance, and were tamed. The horse, buffalo, cow, camel, goat, ram, ass, dog, hog, and cat, were domestic animals[3] kept for a variety of purposes. Fish, crab, turtle or tortoise, shark, crocodile, pearl oysters and conchshell were the useful aquatic animals[4] mentioned by our sources. The pigeon, hawk or falcon, owl, heron, fowl, crane, cuckoo, kite, parrot, goose, duck, and peacock were the most important birds.[5] Apart from their utility as living animals, their flesh, bones, horns, hoops, feathers, shells, teeth, skins, wool, tails, etc. were of economic value.

The aboriginal hunters,[6] fishermen[7] and snake-catchers,[8] who had no land to cultivate and no arts to pursue, solely depended upon their despised trade for their livelihood. Sometimes they would catch the animals and birds alive with the help of net, trap or hook, and

[8] Manu IX 327-328.
[9] Mbh. Virāṭa-Parva X. 9-15. p. 22. [Roy's. Ed.]
[10] Amar. 9. 64. p. 214.
[1] Ibid. 9. 65-66. p. 214.
[2] Amar. 5, 1-10. pp. 124-126; 8, 36-40. p. 183; Raghu I. 71; II. 27, 30, 37-8; III. 3, 31; IV. 74; V. 43; IX. 51, 53, 55, 61, 63, 64, 65; XII. 37, 59, 71; XIII. 34; XVI. 12, 15; Ritu. I. 11, 14, 15, 19, 23, 25, 27; II. I, 9, 15; III. 14; IV. 8; Kum. I. 54; III. 36; Śak IV. p. 901; Cosmas XI. p. 358, 359, 360, 372; Nār. XI. 32.
[3] Amar. 5, 4, 6, p. 125; 8. 44-47. pp. 184-5; 9. 58-62, 73, 75-77, pp. 213-217; 10. 22-24, p. 230. Kum. VI. 40; Nār. XI. 30-31, 32. Raghu. I. 42, 88; II. 1,4, 15, 21, 26, 49; III. 65; V. 32, 73; IX. 53.
[4] Amar. 9. 17-19, 21, 23, pp. 64, 65; Raghu I. 73; VII. 40; XIII. 13, 17; Kum. IV. 39; Ritu. I. 19; III. 3; Śak pp. 934-935.
[5] Amar. 5. 15-16, 18, 20, 22-26, 31, pp. 127-130; Kum. III. 32, IV. 14; Raghu III. 56; IV. 19; V. 75; IX. 67; XI. 60; XIII. 27, 30, 33; XIV. 69; XVI. 14. Ritu. I. 5, 13, 19; II. 14, 16; III. I, 2, 8, 12, 13, 16, 17, 21, 24, 25.
[6] Amar. 10. 14. p. 228; 10, 21. p. 229; Nār. XI. 22; Raghu IX. 53.
[7] Amar. 9. 15, p. 63; Śak. pp. 934-8.
[8] Amar. 7, 13. p. 59; 3. 10. p. 271.

sell them alive in the market; and sometimes they killed them and sold them for flesh, skin, bones, feather, etc.

We have already said that cattle were essential in the agriculture of our period. Oxen were the only animals used for ploughing,[9] and they were also used for transport.[10] Cows were specially valued for their various products such as milk, curds, clarified butter, fresh butter, butter-milk and whey[1] and hardly a single religious ceremony was performed without them; we have seen that in many of our inscriptions *charu,* prepared from milk and rice, is mentioned. Moreover, the frequent use of clarified butter is referred to in our literature and law-books.[2] The flesh and bones of the cow were used for manuring,[3] and cow-dung[4] also served as fuel and manure.

Nārada lays down elaborate rules for maintaining the respective interests of the cow-herd, and the owner of the cattle. For tending a hundred cows, a heifer shall be given to the herdsman as wages every year; for tending two hundred cows a milch cow shall be given to him annually. Besides this the herdsman is to receive all the milk yielded by his herd every eighth day; and selling this in the local market with the help of his wife or children, he might easily become a comparatively prosperous man.[5] Those cows which a cowherd takes to pasture every morning, shall be taken back again in the evening, after they have eaten grass and drunk water. If, however, a cow meets with an accident, he shall struggle to protect her as best he can. If he is unable to rescue her he shall go in haste to announce it to his master. Should he neither struggle to protect the cow, nor raise a cry, nor announce it to his master, the herdsman must make good the value of the cow to the owner, and must pay a fine to the king. Moreover, the herdsman alone shall make good the loss of an animal which has strayed, been destroyed by worms (snakes), been slain by dogs, or met its death by tumbling into a pit, if he did not duly exert himself to prevent such an accident. So if goats or sheep are surrounded by wolves and the herdsman does

[9] Ibid. 9, 64. p. 214.
[10] Amar. 9, 65-66. p. 214 & Bṛihat LXI 14.
[1] Amar. 9. 51-54, pp. 211-212.
[2] Nār. I. 61.
[3] Supra. p. 78.
[4] Amar. 9. 50. p. 211.
[5] Let us suppose he has 30 milch cows out of a herd of 100 cattle. If one cow yields 5 seers of milk in a day in a very moderate estimate, he can have $(30\times5)=150$ seers (or $36\frac{1}{2}$ gallons) of milk every eighth day, and if he gets the chance of milking four times a month, then he will have $(150\times4)=600$ seers of milk in a month. We have, of course, no evidence for the price of milk in Gupta times, but we may assume that the market value of so much milk was considerable. In present day Bengal villages milk is sold, during the autumn, when cows are most productive, at about 3 annas per half-seer, or approximately 3d. per pint.

not come to their assistance, he shall be responsible for any animal which a wolf may attack and kill. But for an animal seized by robbers, though he raises a cry, the herdsman shall not be bound to pay, provided he gives notice to his master at the proper place and time. Nārada says that it is according to these principles that all disputes arising with herdsmen have to be settled. In case of the natural death of an animal entrusted to his care the herdsman is free from blame, if he can produce the tail, the horns, etc.[6] A cow within ten days of her calving and a full grown bull shall be tended carefully. In spite of that, if they do any mischief, the owner is not liable to punishment. But when the cattle lie down in a cultivated field, after grazing, the fine to be inflicted shall be double; when they remain in the field for the night, it shall be four times the ordinary amount.[7]

Bṛihaspati is very precise on this subject. A man hired for attendance on the milch cows of another shall receive the whole milk every eighth day. A cowherd shall save cattle from the danger of reptiles, robbers, and tigers, and from caverns or pits; he should try his best to protect them and call out for help or give notice to his master if they are in danger.[8]

Often a physically fit bull[9] was set at liberty for breeding purposes. It is laid down that it should be marked with the sign of consecration, and no fine should be imposed on the person who set it at liberty for the damage done by it.[10] In the Matsya Purāṇa[1] it is laid down that this brāhmanical bull must have elevated shoulders and hump, a soft and straight tail, tender cheeks, broad back, shining eyes, sharp horns, thick hair on the tail and eighteen healthy teeth. Further, the bull must be well-built, roaring like the thunder-clouds, high in stature, and walking like an elephant. In selecting a breeding bull similar advice is given by Varāhamihira.[2] As the bull was likely to sire many of the calves born in the district, and as it was in a sense public property, its careful choice was a form of selective breeding, and of value to the economy of the locality.

Owing to the importance of cattle in agricultural economy and their useful dairy products, the cow had become a specially sacred animal in our period, as is attested in our literature and epigraphs. Thus, a whole canto of the Raghuvaṁśa is devoted to the worship of

[6] Nār. VI. 11-17; Manu VIII. 230, 232.
[7] Nār. XI 30, 34.
[8] Bṛi. XVI 14, 16.
[9] Amar. 9, 62, p. 213; 9. 70. p. 215.
[10] Nār. XI 33.
[1] Matsya-Adhyaya 207. pp. 445-7 ∠Ānandāśrama skt series No. 54⊿.
[2] Brihat. LXI 5-19.

a cow by King Dilīpa and his queen. In order to have a child, the queen Sudakshiṇā used to worship the cow Nandinī with sandal paste and garlands. After that King Dilīpa went out into the forest with Nandinī to tend her; and when she returned home at dusk Sudakshiṇā again duly worshipped her with proper *arghya* (offerings) and bowed down to her.[3] Moreover, for the sake of religious merit, the King would often make a gift of a milch cow and a bull, apparently to some religious body, or to a Brāhmaṇ.[4] In the Allahabad Pillar inscription, Samudragupta is described as the giver of many thousands of cows.[5]

The slaughter of cows was considered as sinful as murdering a Brāhmaṇ. The Sāñchī Stone inscription of Chandragupta II[6] records that whosoever shall interfere with the gift shall be invested with the guilt of the slaughter of a cow, or of a Brāhmaṇ. The great respect paid to the cow is also shown by the Eran Pillar inscription of Budhagupta, which states, "Let prosperity attend all the subjects, headed by the cows and Brāhmaṇs".[7]

Legal texts lay down rules for the proper treatment of cattle. He who employs at an improper time, for drawing or carrying, tired or hungry or thirsty animals, shall be compelled to atone for this offence in the same way as a cow-killer, or to pay the first fine.[8] Bullock with feet dragging should not be used for carrying loads.[9]

Moreover, when a man forcibly makes use of a cow without authorization from the owner, he deserves the same punishment as a thief. Nārada then specifically lays down that the man has to give eight *paṇas* a day for the unlawful use of a milch-cow, thirteen for the use of a bull, and sixteen for the use of a horse.[10]

For stealing cows belonging to a Brāhmaṇ, or for piercing the nostrils of a barren cow, (i.e. using her for draught purposes), the man shall in every case lose half his feet.[1] But Bṛihaspati goes a step further and says that a stealer of a cow shall have his nose cut off, and shall be plunged into water after having been fettered.[2]

For the purposes of war the elephant was considered one of the most important elements of the royal army. Thus Kāmandaka says that the destruction of the forces of enemies and victory over them

[3] Raghu ii. 21 (Almost the whole canto ii).
[4] Bṛihat. XII. 15-16.
[5] Fleet. p. 8.
[6] Ibid. p. 32.
[7] Fleet. p. 90.
[8] Bṛihat. XXI, 21.
[9] Bṛihat. LXI, 9.
[10] Nār. VII 10, 13 (sec. on Miscellaneous laws).
[1] Nār. Appendix—Theft 33.
[2] Bṛi. XXII 23-24.

depend on elephants. Therefore the armies of the Kings should teem with elephants.[3] In the Raghuvaṁśa[4] Aja says that it is not proper for a King to kill even a wild elephant who does much harm. Besides their military importance, elephants were used by the rich for hunting and riding. In the later law-books we are told that the King should tour the city on the back of elephants in order to please the people.[5] Śukra considers the elephant to be the best beast of burden.[6] Elephant's tusks also fetched a very high price in the market, and were one of the exports of India.

Thus, owing to the military and economic importance of elephants, they were treated almost as sacred animals. Kāmandaka[7] speaks of purifying army horses and elephants by means of the *Nīrājita* ceremony.

The horse[8] was used as cavalry, for drawing chariots and for hunting. The breed of horses was duly considered, and certain local breeds were thought specially good.[9] In that respect the north-western part of India, Persia and Arabia were famous for good horses; and the King of Kāmboja (apparently in the western part of India) presented Raghu with numerous good horses as a token of his submission. Elsewhere Kālidāsa says that the horses from the Vanāyudeśa formed the chief part of Aja's army.[10] Dr. Pandey,[1] without mentioning any authority, identifies Vanāyu with Arabia. But Cunningham identifies Vanāyu with Bānu[2] in the north-west of India, where very good horses are still bred. But at the present state of our knowledge, it is very difficult to give any precise location of it.

Just as for elephants, certain religious ceremonies were also performed for horses, by waving lamps before them in a particular time of the year.[3] The Bṛihatsamhitā[4] gives instructions to the owners of horses for the performance of this ceremony in the month of *Āśvina* or *Kārtika* (September or October). In our period the sanctity of the horse was further emphasised by the performance of the horse sacrifice.

Other animals, such as the buffalo, camel, goat, sheep, ox, ass, dog, hog, cat, peacock, etc., were domesticated for a variety of

[3] Kām. XIX 62.
[4] Raghu V. 50; also IX 74.
[5] Śuk. I. 744.
[6] Ibid. IV 7. 352-53.
[7] Kām. IV. 66.
[8] Amar. 8. 46-47, p. 185.
[9] Ibid. 8. 45-46. pp. 184-85.
[10] Raghu IV. 70; vide also IV. 60-71; V. 73.
[1] Vikramāditya, etc. p. 242.
[2] Geo. of Ind. p. 97.
[3] Raghu IV. 25; Kāma IV. 66.
[4] Ch. XXXX. 6.

purposes. Asses, mules,[5] and camels,[6] as well as oxen were used as beasts of burden. Dogs were used for hunting.[7] Goats and sheep were also nurtured for food. After their death their skin, fat, bile, sinews, teeth, hoofs, bones and horns were utilised for different purposes.

For the preservation of animals Nārada lays down certain specific rules. On him who forcibly seizes large domestic animals, the highest fine be inflicted, the middlemost amercement on him who takes cattle of middle size, and the smallest fine on him who steals small cattle.[8] But the earlier law-giver Manu gives much more detailed rules for the protection of animals. If large animals such as cows, horses, camels or elephants were killed, 500 *paṇas* were to be imposed as a fine, for killing small cattle the fine was two hundred *paṇas,* the fine for killing beautiful wild quadrupeds and birds was fifty *paṇas,* for donkeys, sheep and goats the fine was five *māshas,* and the punishment for killing a dog or a pig was a fine of one *māsha.*[9]

The care for animal life was largely due to the spread of the principle of *ahiṃsā,* much propagated by Buddhism and Jainism. Thus Fa-hsien observes, "Throughout the whole country the people do not kill any living creature, nor drink intoxicating liquor, nor eat onions or garlic. The only exception is that of the Chaṇḍālas. In that country (*Madhyadeśa*) they do not keep pigs and fowls, and do not sell live cattle; in the markets there are no butcher's shops and no dealers in intoxicating drink."[10] Thus Fa-hsien leads us to believe that the people of the *Madhyadeśa* were purely vegetarians. But the evidence of Kālidāsa and others proves beyond doubt that meat diet and liquor were quite familiar at that time. In the Maurya period even the Buddhist king Aśoka[1] did not prohibit meat-eating altogether. As Dr. Saletore rightly points out, perhaps the observation of Fa-hsien was one-sided. He, "being an ardent Buddhist, probably moved only in Buddhist circles and Buddhists being invariably vegetarians, though there were exceptions even among them [sic,] his remarks are evidently confined to their own activities".[2] During the time of Fa-hsien's visit, there were several thousand Buddhist monks and their followers in

[5] Raghu V. 32.
[6] Ibid.
[7] Amar. 10. 23. p. 230. Raghu IX. 53.
[8] Nār.:—Appendix—Sec. Theft. 29.
[9] Manu VIII. 296-298:—For killing a man, one "must pay the highest amercement or 1,000 *paṇas*". (Medh. Gov., Nār., Kull, Ragh. Nand) and for killing a large animal the fine will be half of it. (VIII. 296).
[10] Legge. p. 43.
[1] R.E. I:—Hultzsch. p. 1.
[2] Saletore's Gupta Age. p. 116.

India, and they were certainly vegetarians. There were many Jain monks too in this country. Lay followers of both sects were numerous; and there is no doubt that a considerable proportion of the population did not kill living animals for food or sacrifice. Of course, it cannot be denied that the rest of the Hindu society did not follow the principle of *ahiṃsā*. They killed animals, when they needed to do so.

We have only scanty references to the general condition of the cattle in the Gupta period. Except Varāhamihira all our sources are quite silent on this subject. Varāhamihira refers to the prosperous conditions of cattle on as many as twenty-four occasions. On the other hand, he predicts forty-two instances when cattle are to be expected to suffer from natural calamities. Moreover he also forecasts about the numerous instances of famine and pestilence, which would have certainly some bad effects upon the life of the cattle.[3] Thus, from the observation of Varāhamihira we can say that the fortunes of the herdsman and cattle-rearer at this time were, as in most times, precarious.

[3] Appendix I.

CHAPTER V

INDUSTRY AND INDUSTRIAL WORKERS

India has always been rich in her natural resources, which can be broadly grouped under three heads: (i) mineral, (ii) animal and (iii) plant produce. All these rich resources offered scope for a large number of handicrafts and professions. Sometimes the people were not free to utilise these resources for productive purposes without the permission of the state. The mineral wealth and the reserve forests were the absolute monopoly of the state, as we see from the Poona and the Riddhapur plates of Prabhāvatīguptā, who donated lands, but reserved rights over the mines for the state.[1] This kind of reservation is also recorded in the Siwani and the Chammak copper plates of Pravarasena II.[2]

Strabo says that beneath the surface of the north-western part of India "there are mines of gold";[3] and the Periplus also states that there are goldmines in the Gangetic area.[4] The existence of mines is referred to in the Amarakośa[5] and Kālidāsa.[6]

The Chotanāgpur areas are the main source of metallic ores in northern India, and provided most of her gold, copper, iron and mica, expecially the Singhbhum copper belt, which starts from a point about five miles north of Chakradharpur in the west, runs through Kharsawan and Seraikela, and enters Dhalbhum between the villages of Keryuadungi and Rangadih, where old and more recent workings show three more or less parallel runs of ore. And from the numbers of palaeoliths, bouchers and neolithic cores, flakes, slag heaps and beads occurring in the neighbourhood, this would appear to have been one of the earliest centres of mineral resources of ancient India. Moreover, the remains

[1] E.I. XV. p. 42, L. 17; J.A.S.B. (N.S.) XX. 1924. p. 59.
[2] Fleet p 246. L. 29 and p. 238, L. 28. Fleet has translated *"charma-āṅgārah a-lavaṇa-klinna-krēṇi-khānakah...."* as hides, charcoal and mines for the purchase of salt. Although Fleet reads (p. 238, L. 28) these terms *"klinna"* and *"khanakah"*, Dikshit and Pathak in the Poona plate (p. 42, L. 17) read in a similar contex *"kliṇva"* and *khānakah"* which seem to us the correct reading of these terms. It should also be remembered that the word for a mine is *"khānika"* and not *"khānaka"* which means a miner; but it here seems to indicate the mine, not the miner.
[3] MacCrindle's *Megasthenes and Arrian,* p. 95; also f.n.—also p. 31. Ibid. Fragment from Strabo. XV. I. 44.
[4] Schoff. pp. 47-48.
[5] Amar. 3. 7. p. 79.
[6] Raghu III. 18; XVII. 66; XVIII 22.

of stone implements in the dumps leave no room for doubt that the extraction of copper was carried out with their aid. But the most important source of gold was in the south-western portion of the *pargana*, close to the Mayurbhanj border. Here the numerous trap grinding and crushing stones litter the jungle south of the village of Kundrukochha, and, at about 97 feet depth in an ancient mine-shaft, one stone hand hammer and a broken chisel of the ancient workers have been found. Moreover, there are remains of numerous furnaces for melting the different kinds of metals.[7]

The only definite evidence of the date of the working of these mines is provided by the Kushāṇa-type coins, found in a buried clay urn with fragments of bones at Rekha mines; from this it is clear that the workings must date at least from this period onwards. From the projections left on the sides of the coins these were probably unused, and must have been cast in rows in a mould. Similar coins have been discovered south of Chaibassa and in various parts of the district of Ganjam, Puri and Balasore as well as in the state of Mayurbhanj. The Kushāṇa empire started to break up with the death of Vāsudeva about A.D. 220 and any influence that the Kushāṇas may have had over eastern India disappeared by the middle of the third century. These are not true Kushāṇa coins, but crude imitations by people who knew the coins of the Kushāṇas as a means of exchange. It would thus seem that the urn was buried either just before the Gupta period or in the early part of that period; and these mines may have been worked under Chandragupta I or his famous son Samudragupta. Moreover, coins of the third to fifth centuries A.D. found near Roamgarh further strengthen this assumption.[8]

Thus, there is no reason to disbelieve that at least from the late Kushāṇa period onwards these mines were exhaustively worked. This is also supported by the evidence of the Amarakośa[9] which refers to wrought and unwrought gold and iron, iron bars and mines. Moreover, we have also numerous references to mines in the Bṛihatsaṃhitā.[10] There is no reference in any of these sources to silver mines, and we must assume that, as at the present day, no silver was mined in India,[1] and that it was imported, probably from Ceylon and Afghanistan. Moreover the appreciable difference of prices between gold and silver, which we shall see later, may have facilitated the export of gold from India, and it was found to be very profitable to import silver, either

[7] Murray:—J.R.A.S.B. VI. 1940. pp. 82-83.
[8] J.R.A.S.B.:—1940. pp. 100-101.
[9] Amar. 9. 91, 99, pp. 220, 222; 3. 7, p. 79.
[10] Appendix I.
[1] Cunningham: *Coins of Ant. India,* p. 5.

in pieces or in coins from outside, which "remained in active circulation",[2] even in the Gupta period.

The Amarakośa,[3] however, gives a comprehensive list of metals, including gold, silver, copper, iron, brass, lead and tin. The art of metal working was fully developed at that time, for it was one of the 64 arts (*Kalās*) listed in the Kāmasūtra.[4] Bṛihaspati also refers to the workers in gold, silver and base metals.[5]

Among all the metals iron was the most useful in everyday life. But so far the archaeological evidence for iron implements is very scanty, probably because they corrode very quickly in the tropical climate of India and hence it is diffcult to recover them in a recognisable condition in an archaeological excavation. Whatever iron material has been found entirely corroborates our literary evidence, since archaeology has produced implements similar to those described in literature. The blacksmiths[6] were, after the peasants themselves, the most important members of the ancient Indian rural community. In the Raghuvaṃśa[7] there are references to working in iron by heating and beating a piece of iron with the help of a steel hammar (*ayoghana*).

Among their manufactures are mentioned useful implements,[8] such as, spades, sickles, ploughshares, chains, iron plates and pans, swords, and other iron weapons, and the instruments for cutting and working on wood, bamboo and leather. Among iron objects of the Gupta period[9] the archaeologist has discovered traces of hammers, different kinds of chisel, axe, a padlock, a plate of iron with holes, a door ring, a spoon, a dagger, a hatchet, and a small iron pot.[10] But the Meharaulī iron pillar of king Chandra,[1] generally identified as Chandragupta II, which still stands near Delhi, shows the high-water mark of craftmanship in iron work. It is over 23 feet high with a diameter of 16.4 inches and is more than six tons in weight. It is a single piece of iron. Another remarkable feature of this pillar is that,

[2] Cambridge History of Ind. I, p. 343.
[3] Amar. 9. 88, 91, 93, 94, 97, 98, 103, 105, pp. 220-223.
[4] Kām. Sū. Bk. I, Ch. III, p. 23; -dhātuvada.
[5] Bṛi. XIII 33; XV 7.
[6] Amar. 10. 7. p. 226; Appendix I.
[7] Raghu XIV. 33.
[8] Amar. I. 28. p. 10; 8. 42, p. 184; 8. 70-72; pp. 189-190; 8. 88-94, pp. 193-194. 9. 12-12, 30, pp. 202-3, 206. Bṛi. VIII. 79-80.
[9] A.S.I.A.R.:—1911-12, No. 7, 9. p. 91; No. 11, 12, 13, 14, 15, 18, p. 92. J.R.A.S.B. VI. 1940, p. 83.
Cf. "The Art of India and Pakistan", p. 12: Acc. to Prof. Codrington for sculptural work a broad chisel was used for the rough shaping and a narrow chisel was used for finer work.
[10] A.S.I.A.R. 1911-12. p. 92. No. 16.
[1] Fleet, p. 139.

although it has been exposed to the weather for several hundreds of years, yet it has never rusted and retains its inscription very clearly. To manufacture this huge monolithic pillar required a very large iron foundry and a group of highly skilled iron workers. Considering all these facts, Parcy Brown remarks that it is "a remarkable tribute to the genius and manipulative dexterity of the Indian iron-workers".[2] Thus, it is possible that, side by side with the small iron foundries or workshops, there were also very large foundries in the Gupta period, perhaps owned by the state. The blacksmiths not only supplied tools[3] to cultivators, gardeners, carpenters, wood-cutters, grass-mowers, and householders, but also armed the military. It was on them that the king depended for victory in war.

But the goldsmiths[4] only satisfied the demand of the rich section of society. So, unlike the blacksmith, they had to settle in the rich localities and towns, where their manufactures were appreciated and bought. In the Mudrārākshasa[5] we are told that Vishṇudāsa was a prominent jeweller in the city of Kusumapura. This undoubtedly indicates that there were other petty jewellers in that city.

Their work was a highly specialised one, and, at least in our period, they knew their art very well. In the Kāmasūtra *rūparatnaparīkshā* (testing and valuing of precious stones, etc.), *dhāturvāda* (combination and purification of metals) and *maṇirāga-karajñānam* (knowledge of precious stones, etc.), are included in the list of sixty-four arts.[6] The jewellers[7] used scales and touch-stones for weighing and testing the quality and quantity of stones and metals. Gold was also tested in fire.[8] The alloying[9] of different kinds of metal was well-known. Among other metals, gold was largely used for jewellery and for currency.

Although we have very few specimens of jewellery unearthed by the archaeologist's spade, yet from the painted, carved or moulded figurines, and from the fairly elaborate descriptions of Kālidāsa and others, we can form an idea of the jeweller's manufactures of our period. Moreover, the high intrinsic value and aesthetic quality of the gold and silver coins also suggests that the jeweller's art in these metals

[2] *Indian Architecture* (Buddhist and Hindu), p. 61.
[3] Amara. 2. 35. p. 267. Fleet, p. 6, L. 17. "Paraśu-śara-saṅku-śakti-prās-āsi ...." etc.
[4] Amar. 10, 32. p. 232; 10. 8. p. 227.
[5] Act. VI p. 184.
[6] Kām. Sū. Bk I III p. 23.
[7] Amar. 10. 32, p. 232.
[8] Raghu I, 10.
[9] As is evident from the Gupta Coinage: Appendix III.

must have reached the high-water mark of excellence in execution and design. The royal ladies, their host of attendants, courtesans, and women in ordinary circumstances, all used to decorate their parsons according to the means at their disposal. Vātsyāyana advises a wife never to appear before her husband without some ornaments on her person.[10] Not only the ladies but also the rich men also used different kinds of ornaments on their persons.[1] Gold, silver and precious stones were the chief materials for these ornaments. Perhaps ordinary beads were used by the women of the poorer section of the society, as these are used even today by the aboriginal women of India.

The ornaments were manufactured to decorate the different parts of the body. From the Bhitā excavation we have a few specimens of such ornaments, including one gold ring, one hollow gold bead, two miniature gold beads joined together, a flat wheel of gold with axle and spokes and a disc of gold embossed with a human face.[2] Moreover, our inscriptions and our great poet Kālidāsa give us many references to jewellery, of which we mention only a few. The Mandasor inscription of Kumāragupta and Bandhuvarman[3] refers to women wearing necklaces (*hāra*). The Mālia copper plate of Dharasena II relates the hair ornaments of the subdued Kings.[4] We have also numerous coins depicting the King or Queen wearing jewellery. We thus see that the manufacture of jewellery was most flourishing at the time.

From the point of view of ancient economists, jewellery was one of the important means of saving. But the modern orthodox economist may perhaps regret that so much wealth should have been locked up in so unremunerative an investment as ornaments. It is perhaps true that there were not many safe and productive sources of investment in our period. Moreover, from the standpoint of the women who formed half of the population, the habit of investing a considerable part of the family savings in jewellery was very desirable. It should not be forgotten that for a long time women were denied the right to have a share in the immovable property of the family. Thus, according to Nārada,[5] females are not entitled to bestow gifts, or to sell property. But a woman had full rights over movable property such as personal jewellery. This was known as *strīdhana* and could not be taken away from a woman by coparceners.[6] The more the amount invested in her

[10] Kām. Sū. IV. I. 13.
[1] Vide Gupta coins, sculpture and paintings.
[2] A.S.I. A.R. 1911-12, p. 92.
[3] Fleet, p. 82.
[4] Ibid. p. 166.
[5] Nār. VII. 8. (Sec. on miscellaneous laws).
[6] Ibid. XIII 8; 25. Also Manu IX 200.

ornaments, the stronger, therefore, would be the economic position of a woman. The hardships of the laws of inheritance, by which the widow was for a long time not recognised as an heir to her dead husband's immovable property, were considerably lessened by this habit of investing a great portion of the family savings in jewellery. Thus, Altekar has rightly remarked, "ornaments in fact were in the past what an insurance policy is in modern days. The large amounts invested in them have enabled thousands of Hindu women to tide over difficult times".[7]

The working of other metals such as silver, copper, bronze and brass was well developed in the Gupta period. After iron, copper was possibly the most useful metal at that time, for in the Amarakośa[8] only the copper-smith is mentioned, along with the blacksmith and goldsmith. Copper and bronze were mainly used for making statues, utensils and coins. Iron plates were not suitable for charters of land grants, for iron corrodes easily owing to moisture, so copper was usually employed for permanent charters. The business of engraving letters on the copper plate was a very highly technical art; and no doubt well paid engravers were permanently maintained by the state for this and other purposes.

Along with gold and silver, copper was used for coinage in our period. Moreover, copper and brass were used for pots, for a copper spouted vase from the Bayana Hoard[9] and a brass vessel from the Kalighat[10] hoard have been discovered.

Splendid statues were made of bronze, copper and brass. Among others the following copper objects have been excavated by the archaeologist—a seated Buddha in bronze from Uttar Pradesh,[1] a standing Buddha in bronze from Bihar[2] (by cast process), and from Bhīṭā near Allahabad, one standing female figure of copper, one copper basin, three tripods, one shallow saucer of copper, a cup of copper, one circular lid of copper, one cooking pot (*hāṇḍī*) of beaten copper, and two bangles of copper.[3] According to Sir John Marshall,[4] the process of manufacturing the above articles was in most cases casting; but a few of the objects were hammered after heating.

Moreover, copper was used for seals, and two copper seals have

[7] The Position of Women, etc. p. 365.
[8] Amar. 10. 8. p. 227.
[9] Vide the Bayana Hoard (Altekar).
[10] Gupta Coins (Allan) C.XXIV.
[1] The Arts of India & Pakistan. p. 48 (Prof. Codrington) No. 197.
[2] Ibid. No. 199.
[3] A.S.I. (A.R.) 1911-12, pp. 89-91.
[4] Ibid. p. 89.

been discovered from the Rajghat excavation.[5] But the colossal copper statue of Buddha of about 7½ feet high from Sultanganj, which is now in the Birmingham Museum,[6] gives a very good testimony of the standards of copper-casting in those days.

From its massive structure it appears that just like the big iron foundries, which we have already referred to, there were also big copper foundries in our period.

The looking-glass[7] was an important article of toilet, and was widely manufactured. Glass was not used for this purpose, but we are not sure what kind of metals were highly polished and used as mirrors. In the Raghuvaṁśa,[8] however, there is a reference to a mirror made of gold. Such a mirror might have been used in the royal house; but the poorer section of society could not have such costly looking-glasses. In the opinion of Gopinath Rao, highly polished metal plates of various designs were used as mirrors in those days. "In a place called Arumula, in Travancore, such mirrors are still manufactured; and the mirrors made by the workmen of this place are so true that they do not show distortion in reflection".[9] Moreover, from the Ajantā frescos, according to Professor Codrington, the only "metal articles recognisable are mirrors. These are circular and have a central knob behind, pierced to take a ring or cord. This form is perhaps especially associated with China, tanged or handled mirrors being common all over the east, in bronze, brass and steel in Muhammadan times, and notably in bronze in Java at a period closely succeeding that of Ajanta. However, mirrors of any kind are rare as archaeological finds in India.... In spite of the archaeological rareness of mirrors in India, modern Newari-made copper and brass mirrors for Tibetan rural use are common".[10]

In the Gupta period diamonds, pearls, other precious stones, corals and conch-shells were also largely used and worked up as ornaments. Varāhamihira, in his Bṛihatsamhitā[1] has dealt exhaustively with the quality, quantity and prices of the different classes of diamonds, pearls and rubies. The Amarakośa[2] refers to emerald, ruby, pearl and pearl oyster, conch-shell, coral, and small and big shell. There is ample re-

[5] The Sarasvatī Collection of Calcutta—The Classical Age. p. 553.
[6] Gupta Art. p. 17.
[7] Raghu XIV 37; XVII 26; XIX 28, 30; Kum VII 26; VIII 11.
[8] Raghu XVII 26.
[9] Hindu Iconography, Vol. I, Part I, p. 12.
[10] I.A. 1930, p. 172—Articles on Ajantā frescoes.
[1] Chapters LXXX—LXXXIII.
[2] Amar. 9. 92, p. 221; 9. 23, p. 65; 9. 93, p. 229; 3. 133, p. 301.

ference to precious stones in our literature. Kālidāsa[3] mentions *maṇi* (a precious stone of any description), diamond, topaz, sapphire, and lapis lazuli. Moreover, from the Mṛichchhakaṭika we have a very good picture of the use of precious stones and shells. In one passage the goldsmiths are seen consulting among themselves about particular jewels, such as lapis lazuli, pearls, coral, blue sapphires, rubies, emeralds, etc. Rubies are being set in gold; gold ornaments are being fashioned; pearl-ornaments are being strung with red-threads; beryls are being patiently polished; conches are being split up; corals are being polished on whetstones.[4]

The pearl-fishery was a very flourishing industry in Ceylon[5] and in the Tamil country. On the arrival of Raghu the King of the Pāṇḍya country offered him the best of pearls collected from the Tāmraparṇi river, in order to please him.[6] Thus our poet refers to the ancient practice of pearl-fishery, which is still going on in the same manner near the port of Tuticorin, below Tanjore. The sea at the mouth of the river, which is still considered to be one of the most important centres of pearl-fishery in the world, yielded the most perfect specimens of these precious stones. From these places they were exported throughout India. Several types of pearl necklace with gold and other precious stones are mentioned in the Amarakośa.[7] Moreover, conches are popularly used in religious and social ceremonies.[8] Thus, we can safely conclude that the shell gatherers and shell-cutters[9] earned a very good living in our period.

Salt is an essential article in every-day living. It was commonly obtained from the saline water of rivers, lakes and seas. The Amarakośa mentioned two types of salt,[10]—one from sea water and the other from rock. The latter was probably unearthed from the mines and rocks; even today there are reserves of rock-salt in Mandi (Himachal Pradesh); and across the Indus in Kohat in Pakistan are the beds of nearly pure rock-salt, called the Salt Range of 1,000 ft. thick and 8 miles long.[1] Perhaps, under the Vākāṭakas, the salt industry was the

[3] Raghu III. 18; VI. 19; XIII. 53, 54, 59; XVI. 69; XVIII. 32, 42; XIX. 45; Meg. ii. 16; Kum VIII. 75; Ṛitu. ii. 5; Legge p. 79.
[4] Act. IV pp. 131-2.
[5] Legge, p. 101. Acc. to Fa-hsien, most of the subjects of certain parts of Ceylon produce pearls and precious stones of various kinds. The King employs men to watch and protect the pearls and takes 3 out of every 10 pearls.
[6] Raghu IV 49-50.
[7] Amar. 6, 104-106, p. 156.
[8] Legge, p. 37; Raghu VI 9.
[9] Amar. 10. 8. p. 227.
[10] Amar. 9. 41, 42. pp. 208, 209.
[1] Spate—India and Pakistan, pp. 267, 270.

monopoly to the state,[2] and the state no doubt made much profit from it. We have no definite evidence that the Guptas monopolised salt.

Next to metal, pottery was the most essential manufacture for every day life. For the study of the pottery of the time we have to depend mainly on archaeological sources. But scientific excavations of Gupta sites have only recently been carried out. The reports of excavations such as those at Ahichchhatrā, Hastināpur and Kausāmbī are still unpublished. When they become available, they will throw much light on the material culture of the Gupta period.

Potters of this period showed much skill and efficiency in moulding, colouring and burning pottery. Generally speaking pots from Ahichchhatrā were wheel-made, but moulded pots were also considerable in number.[3]

The most distinctive class of pottery of this period is what the archaeologists have called "red ware".[4] This technique was believed to have been imported to India from the Mediterranean region.[5] But local imitations have been found in a number of sites. Along with this the local types continue in the different regions in grey or dark ware.

[2] J.A.S.B. (N.S.) XX p. 59, l. 19; E.I. XV p. 42, l. 17; Fleet pp. 238, 246.
[3] A.I. Vol. I, 1946, p. 41 (A. Ghose and Panigrah's article).
[4] Ibid.
[5] Vide: Baroda Through the Ages:—Appendix I, p. 56.
(a) The unique ware "occurs with the Sātavāhana sites in the Deccan, Kshatrapa in Western India and Kushāṇa and Early Gupta in Northern India. The most distinctive feature is its fine fabric and texture, which in uniform at all the sites in Deccan and Western India. This pottery is made of an extremely fine levigated clay, and is burnt uniformly to a brick-red colour. The outer surface has a fine polish, varying from a lacquer red to a dull brown. Some of them are extremely thin, also". About the origin, the suggestions of Wheeler and Codrington are worth noting. "A few specimens from Somnath were examined by Wheeler and those from Baroda by Codrington, and they were of opinion that they were of Roman origin(?). The treatment of the clay and the very high firing which gives almost a metallic note, when it is struck, no doubt seem to be a foreign technique. They were probably copies of the Roman pottery (specially the Samian) which was coming to India with the traders in the early centuries of Christian era. At some of the sites we get this pottery in association with definite Graeco-Roman antiquities. In this connection, it is very interesting to note some of the imports into the great commercial emporium on the West Coast of India, viz. Broach. They included, according to the Periplus of the Erythrean Sea (1st Cent. A.D.) wine, porcelain, perfumes, vessels of copper or brass, etc".
(b) Ibid. p. 62—Vide the map of Gujrat showing the distribution of red polished ware.
(c) A.I. 1946 (2). p. 18. From the excavation of Arikamendu near Pondicheri Wheeler states that "numerous sherds of red-glazed pottery known to have been made in Italy in the 1st Cent. B.C." were also found in Arikamendu. According to him antiquities of this place date from 1st Century B.C. to 2nd Century A.D.

The older forms also survive. Some of the sites in northern India have produced pots which were made of clay mixed with mica.[6]

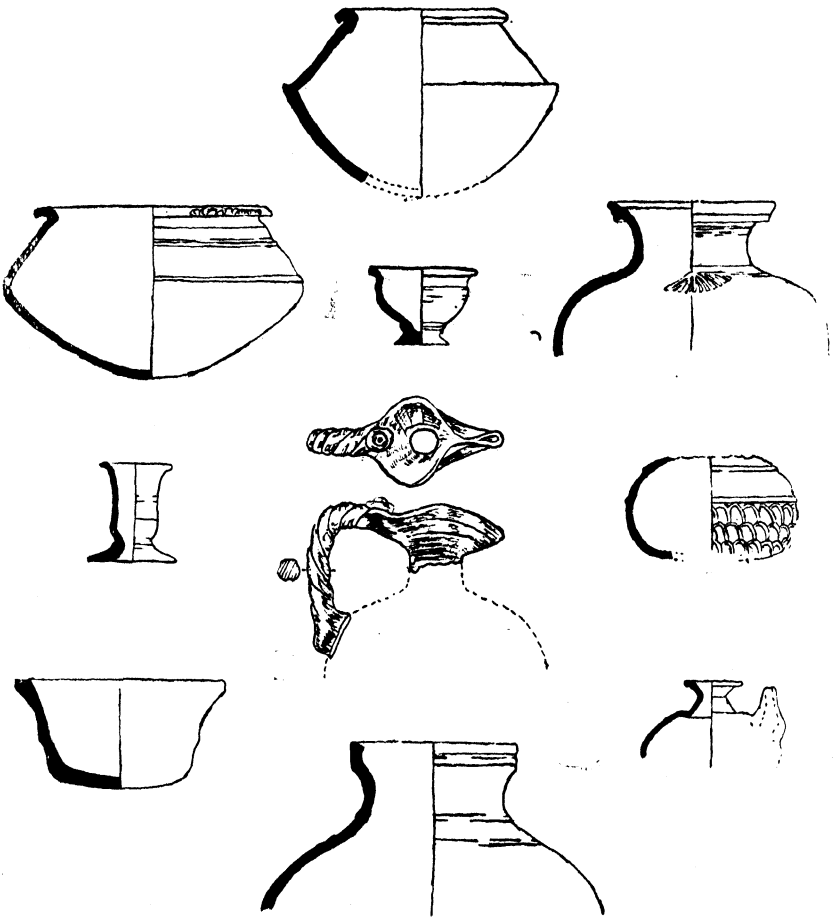
We have numerous specimens of pots, terracotta figures, seals and beads excavated from Rājghat, Ahichchhatrā, Bhīṭā, Basārh and other sites. We can classify them as (i) utensils, (ii) terracotta figures, (iii) seals and (iv) beads.

The pottery[7] includes cooking vessels of different sizes, different types of bowls, jars of many sizes, used for various purposes, incense-burners, big and small *gharā* (jars for storing water), a stand for a jar, a goblet, pot-lids, a miniature *kamaṇḍalu* with a curved handle on the top, a miniature bottle and a potter's or cloth-dyer's mould. Many of these objects are decorated with various patterns, such as rosettes, geometrical figures, bands of lotuses alternating with conchs, running boar and elephant designs. They are in a variety of shapes, viz., round, ellipsoidal, flat-bottomed, open at the top and receding at the base. The form of the water-jars is that of a long-necked bottle with a bulging belly usually finished in red polish and furnished with an attractive animal spout. Some of the drinking vessels show striking examples of handles. This shows that ornamental pottery was in very great demand in the market, and skilful potters were required to manufacture it in keeping with the taste of their buyers.

Along with the other types of pottery an unique specimen of jug has been excavated from Ahichchhatrā. It has a pinched spout, a loop-handle twisted in imitation of rope, a polished black surface and a black core. According to Ghose and Panigrahi, "all the characteristics of the jar are alien to the indigenous potter's craft and suggest that the vessel was an importation, probably from the direction of the Mediterranean".[8] Thus fine pottery was an article of international trade at this time.

In this connection the pottery types of the Ajantā frescoes are worth mentioning. One of the commonest examples of a pot at Ajantā is the spouted water-jar, a form which is found commonly on the Sāñchī and Bharut bass-reliefs.[9] "Besides this there are two main types of pots. The first is round-bottomed with a substantial rolled rim and a neck of varying length. Squat pots of this kind, with wide mouths were made in diminishing sizes to stack one upon the other.

[6] From Bhītā—A.S.I. (A.R.) 1911-1912, p. 84, Pl. XXX, No. 78. And A.I. Vol. I. (Ahichchhatrā) p. 48, type 51; Ibid. p. 41.
[7] A.S.I. (A.R.) (Bhītā) 1911-1912, p. 84. Pl. XXX. No. 70-73, 76, 77, 78, 79, 81, 82, 83, p. 85, No. 84-88, 90; 1903—4 (Basarh). p. 93—large jar. A.I. Vol. I. 1946 (Ahichchhatrā), p. 44, type 27, 31, 34; p. 46. Fig. 2; p. 47, type. 45, 46, 47, p. 48, type. 49, 50, 51.
[8] A.I.:—I, 1946; p. 48, type 52.
[9] I.A. 1930, p. 171—Codrington's article on Ajantā frescoes.



GUPTA POTTERY FROM AHICHCHHATRĀ

They were often also, as nowadays, enclosed in a rope net for hanging up. The second type has a rimmed foot and a long neck flaring outwards at the mouth. The ordinary drinking vessel seems to have been a shapely little cup, with a flat narrowly-necked foot. In the fresco in the verandah of cave XVII each of the holy men at the feet is provided with two or three of these cups set out on a flat platter-like dish. These tray-like dishes often appear at Ajantā. They were of all sizes, and some seem to have had slip-decoration in stripes".[10]

The terracotta figures are important from the economic point of view, for quite a number of people must have earned their living by making and selling them. In the modest medium of clay these gifted clay-modellers created things of real beauty and satisfied a popular demand in a cheapest possible rate. Thereby they served the interest of the poorer section of society, who could not afford to buy the precious metallic or stone statues.

These clay figures were much in demand for both religious and secular purposes. Inside the home, in the living room, and in the lover's bed-chamber, terracotta figurines showing amorous scenes or forms of exquisite beauty were displayed.[1] On festive occasions terracotta figurines were specially in great demand. Thus in the later period we see that at the time of Rājyaśrī's marriage multitudes of modellers (*lepyakāra*) were engaged in moulding clay figures of fishes, tortoises, crocodiles, coconuts, plantains, and betel plants[2] Moreover, the terracotta figures of the gods and goddesses also served the interest of the religious people of the day and even the poor man could easily buy them at a much cheaper price than any metallic or stone figure. Many terracottas were probably used as playthings of the children. In Śakuntalā the child Bharata plays with a coloured clay-peacock (*varṇachitrito mṛittikāmayūraḥ*).[3] There is also a reference to Rohasena's clay toy-cart in the Mṛichchhakaṭika.[4]

We have a great number of terracotta figures of our period. They are mostly of gods and goddesses, but there are also numerous figurines of ordinary men and women together with different kinds of animals and many other miscellaneous objects.[5]

[10] Ibid. and vide plate; I. p. 160—see "F" Pottery and Metal Work.
[1] V. S. Agrawala, Gupta Art. Plate VIII, Fig. 10; vide also, p. 11.
[2] Harshacharita:—IV, p. 142. ∠Bombay 1924∠.
[3] Śak. VII. pp. 982, 985-6. (Beng. Ed.).
[4] Mṛicch. VI, p. 178.
[5](i) A.I.: IV. 1947-8. p. 120, No. 55b & 56; p. 121, No. 62-63 f & j. p. 122, No. 65e; p. 123, No. 74; p. 129, No. 97; pp. 132-3, No. 118; p. 133, No. 120a; p. 136, No. 130; p. 143, No. 155; p. 144, No. 164a; p. 152, No. 203; p. 157, No. 236; p. 159, No. 250; p. 161, No. 260; p. 166, No. 291 (Ahichchhatrā).

Other important pottery products were earthen beads. Probably they were used by the poorer section of society, as they are used today by the aboriginal women of India in their necklaces and earrings. Large specimens have been excavated from Ahichchhatrā.[6] Possibly these beads and terracottas were sometimes painted,[7] for coloured beads are used nowadays.

Baked bricks were manufactured from clay and we have ample evidence of them from every excavation. The size of bricks varies considerably from site to site and we have no reason to believe that there was a recognised standard brick, as there had been in the Indus cities, and as there is at the present day. However, it must be remembered that Marshall, Spooner and others were convinced that the size of bricks could be taken as a criterion of relative age, at least in a given site, and in some cases from site to site. Until the matter is put on a firmer basis, the whole question must remain open.

Work in stone offered a good vocation to masons, stone-cutters and sculptors, and a host of their assistants, working on buildings, pillars, columns, flights of steps, irrigation works, and statues. Some of them were certainly very highly paid technicians, for under the master strokes of their chisel the stone was transformed into figures of permanent beauty and grace. Some of the masterpieces of their art[8] in the form of statues are handed down to us through the grace of the archaeologists.

As well as copper, stone was used for the charters of land grants and quite a large number of stone inscriptions of this kind are handed down to us. Building and sculpture are frequently described in Kālidāsa. Fa-hsien also was very much charmed with the architectural beauty of the Buddhist monasteries.[9] From the remains of our period we notice a great development in the use of stone for building purposes. Though there are a few remains of stone buildings from the earlier period, it would seem that stone was rarely used for building before our period. The prosperity of the land, and the growing devotional piety of kings and commoners alike, led to the erection of numerous temples, of which a few survive. There is no doubt that they were once much more numerous, but time and the Muslim invasions have led to the

(ii) The Art of India and Pakistan (Codrington). pp. 52-54.
(iii) A.S.I. (A.R.) 1903-4, p. 95:—(Basarh):—Acc. to T. Bloch there were clay balls of various sizes and the numerous small terracotta figures of animals.

[6] A.I. VIII: 1952. p. 33 (Beads from Ahichchhatrā—M. G. Dikshit).
[7] Supra, p. 109 ref. to coloured peacocks.
[8] "The Art of India and Pakistan" (Codrington)—Sec: Gupta sculpture of 4th to 6th century A.D.—pp. 47-52.
[9] Legge, pp. 55-57 and 77.

destruction of many temples in the more populous parts of Northern India.[10] Those which survive, such as the Gupta temples of Vishṇu at Tigows in Jabbalpore district, the Śiva temple of Bhumra in Nagod state, the Pārvatī temple at Nachna-Kuthara in Ajaigarh state, the Buddhist shrine at Sāñchī, the Daśāvatara Vishṇu temple at Devagarh, another Śiva temple at Khoh in Nagod State, another Buddhist shrine at Bodh-Gaya near the Mahā-Bodhi temple and a temple in a ruined state found at Dah-Parbatia in Darrang district of Assam,[1] are in outlying districts, and probably do not represent the best work of the Gupta architecture, which is now lost for ever.

Animal products included silk, wool, skins, ivory, bones, horns, feathers, etc. The use of leather for different purposes was known at that time, for in the Amarakośa the shoe-maker[2] is mentioned, together with some of his tools and leather products, namely, knife, shoes, leather fan, and leather bottle for oil. Nārada states that even in time of distress a Brāhmaṇ cannot sell skins.[3] Perhaps in our period leather (*charma*) was the monopoly of the state, for even after donating lands the state reserves the right to hides (*charma*).[4] It may be tentatively suggested that the state used to sell hides not only to the merchants but also to the individual leather workers.

Tiger-skins, the skins of the *ruru* deer, and of other animals were used by ascetics and others.[5] They are also used by them even today in India.

The ivory industry was also well developed. The raw material was collected from living and dead elephants. It was then manufactured into luxury articles for the richer households. As we have seen, in the house of the *nāgaraka* the *vīnā* is suspended to an ivory peg (*nāgadanta*) fixed on the wall.[6] Kālidāsa also refers to seats made of ivory.[7] Moreover four ivory seals have been discovered from Bhītā. Sir John Marshall places them in the fourth or the fifth century A.D.[8]

Among the luxury products of our period the musk[9] of the musk

[10] Smith's Early Hist. of India. p. 305 [3rd Ed.].
[1] Gupta Art (Agrawala). pp. 20-21.
[2] (i) Amar. 7. 23, p. 167; 9. 33, p. 207; 10. 7, 30-31, 35, pp. 226, 232, 233.
(ii) Also Codrington's article on the Ajantā fresco painting in cave XVII,—a figure wearing leather slippers (I.A. 1930, p. 160) and reference of boots in cave XVII, p. 161.
[3] Nār. I. pp. 60-63.
[4] E.I. XV, p. 42, J.A.S.B. (N.S.) XX, p. 59, Fleet, p. 238 and p. 246.
[5] Amar. 8. 54, p. 186; Kum VII. 37; Raghu III. 31; IV. 65.
[6] Kām Sū. I. IV. 5-15, p. 28.
[7] Raghu XVII. 21.
[8] A.S.I. (A.R.) 1911-12, p. 48.
[9] Amar. 6, 129, p. 160; Raghu XVII. 24; Ritu Sec. VI. 12; and Cosmas—XI. p. 360 (The Moschus); and Mṛichchha IV. p. 132.

deer is worth mentioning, for it was popularly used for personal embellishment.

Besides these the manufacturing of silk and silk products was a very active industry in our period. In the Amarakośa[10] the details of silk-weaving are referred to. At first the silk threads were prepared from the cocoon and then they were woven into fine fabric, which was afterwards bleached.

The silk industry was very well developed technically, and we read of silk woven with a fine pattern of the figures of swans;[1] certain fine fabrics also came from China to meet the aristocratic demand.[2] However, silken garments[3] were popularly used at marriage ceremonies and in religious festivals. The ladies of the rich used to wear red silken garments,[4] in winter; and the aristocratic lads were also seen using silken garments.[5] Thus, we see that the silk was commonly used, at least by the richer section of society. From the reference to the silk-weavers' guild of Mandasor[6] it is evident that many people were engaged in silk production, and the guild was in a position to undertake the building and repair of a temple.

Other varieties of clothes and household necessities were prepared from wool and fur. After necessary carding and cleaning of wool and fur, skilful weavers prepared warm clothing[7] and blankets of different kinds. Fa-hsien also mentions that the rich people used to wear hair-cloth[8] in Ladak, which is one of the coldest places in India in winter. Even today, shawls woven from the Kashmiri goat-hair are most popular throughout India. The weaving of this cloth was so well developed that it was manufactured as fine as silk.[9] Nārada[10] also gives a reference to blankets made of the hair of the mountain goat. There are other references to blankets made of hair.[1]

Another important insect product was honey. Honey[2] was collected from the bee-hive and was used for food and medicine, and also

[10] Amar. 3, 180, p. 313; 6. 113, p. 157.
[1] Raghu XVII. 25: Kum V. 67: These figures may have been either painted or embroidered, and in these cases *"dukūlam"* may reasonably indicate fine silk garments.
[2] Śak. I, King's p. 838—"Chīnāmśuka" (Beng. Ed.). Kum VII. 3.
[3] Māl. V, p. 1122, Raghu XVII, 25; Legge, pp. 22, 57, 79.
[4] Ṛitu V. 8; p. 433 and Mṛichchha I, p. 16.
[5] Mṛichch IV. p. 134.
[6] Fleet, p. 89.
[7] Legge, p. 23; Amar 6, 111, p. 157; 8. 55, p. 186.
[8] Legge, p. 23,—generally woven (on the authority of Mr. D. C. Lau. of School of Oriental and African Studies).
[9] Legge, p. 79.
[10] Nār. I. 63.
[1] Amar. 3. 132, p. 301, 10. 107, p. 224; p. 116, p. 158 and Kāman. VII. 23.
[2] Amar. 10. 107, p. 224.

on festive occasions mixed with ghee and other ingredients.[3] Bee-wax[4] was also used for various purposes.

The gardens, fields and forests also supplied numerous varieties of wood, bamboo, cane, leaves, flowers, bark, seeds, flax, hemp, cotton and many other necessary articles for everyday use. Timber was plentiful and was used for building houses, ships, chariots, and household furniture and for fuel.

Wood-carving was well developed, and in the Kāmasūtra wood-carving[5] (*takshaṇam*) is mentioned as one of the sixty-four arts. The Amarakośa[6] also gives a reference to the head of the carpenters and to the individual carpenters, and mentions their tools, including work-bench, chisel, saw etc. The importance of the carpenter is shown in the Mudrārākshasa which, though purporting to deal with Mauryan affairs, no doubt reflects to some extent Gupta conditions; here Chāṇakya mobilizes all the carpenters of Pāṭaliputra to prepare the palace and the city gates for the entry of Chandragupta during the time of his coronation.[7] They are referred to as decorating the palaces and gates with beautiful carvings. Large images were made in wood. Fa-hsien[8] states that the people of Darel in the western bank of the Indus had an image of Buddha in wood. It was eighty cubits in height, and eight cubits at the base from knee to knee; such a figure must have required considerable skill in woodcraft, even allowing for probable exaggeration.

Like timber, bamboos and canes were used for building materials and for household furniture. The manufacture of furniture from canes and reeds[9] was included by Vātsyāyana in the list of sixty-four arts. In Kālidāsa we have a reference to cane chairs (*vētrāsana*)[10] which were offered to guests. Moreover, in Fa-hsien[1] there is reference to a five storied bamboo structure upon a four-wheeled car, used in procession on certain festive occasions. In his estimation it was more than twenty cubits high. Baskets[2] were also prepared out of canes and bamboos.

The textile industry was always important in India, and cotton has always been the staple textile crop. In the Amarakośa certain words[3]

[3] Kum. VII. 72.
[4] Amar. 10. 107, p. 224.
[5] Kām. Sū. I, Ch. III, p. 23.
[6] Amar. 2. 35, p. 267; 3. 3, 61, pp. 270, 284; 10. 9, p. 227, 34, 35, p. 233.
[7] Mudrā. II, p. 56.
[8] Legge, p. 25.
[9] Kām. Sū. I. III. "Pattikavetravanavikalpa".
[10] Kum. VI. 53.
[1] Legge, p. 79.
[2] Amar. 10. 30. p. 232.
[3] Amar. 10. 6, 28, pp. 226, 231.

connected with its weaving are mentioned. We have reference to the weaver, his loom, the threads, and the act of weaving. Very fine fabric[4] was manufactured for the richer section of society, and coarse cloth[5] was used by the poor people. Kālidāsa also refers to fine cloth which can be easily blown by the breath.[6] A kind of coarse cloth was also used for tents and screens.[7]

With the progress of the textile industry a considerable evolution took place in dress during our period. At first the dress of men and women was very simple. But from the Kushāṇa times onwards it became more and more complex. Still "it is usually said that the cut and sewn garments were unknown in ancient India, and that is true as far as the testimony of the early sculpture at Bhārut and Sāñchi goes. It is not true of Ajantā".[8] Tailors were required to prepare garments in keeping with the taste of the people, for they are mentioned by Amarakośa,[9] and the sewn garments depicted in Gupta art also prove their existence. In our coins and art we have seen numerous tight-fitting jackets, long drawers, bodices, etc., which were definitely made by cutting and sewing.

Side by side with cotton clothing there was also a more primitive type of garment. We have seen Gaurī[10] and Śakuntalā[1] described as wearing garments of bark cloth, when they lived in the forest. The clothes worn by the ascetics were usually of *valkala,* and sometimes they also used the skins of tiger,[2] deer and the like; sometimes they are also seen using these types of cloth today. Thus in our period bark and skins were used for clothing along with the woven cloth. Bark cloth is prepared by hammering the bark of certain trees in order to make it soft. In thickness it is no less than a thick blanket and it can be well compared with Polynesian *tapa.* It is still being used by Malapantaram, a forest tribe of Travancore.[3]

Dyeing and embroidery were quite well known. From a close examination of the Ajantā paintings of our period we notice certain well defined coloured designs and embroidery on the garments. Apart

[4] Ibid. 6. 116, p. 158; Ṛitu, i, 4. Also Prof. Codrington, note on the Ajantā and the use of "muslin cloth". I.A. 1930, p. 160.
[5] Amar. 6. 116. p. 158; Legge p. 23.
[6] Raghu XVI. 43.
[7] Amar. 6. 120. p. 158.
[8] I.A. 1930. p. 160 (Codrington).
[9] Amar. 10. 6. p. 226.
[10] Kum V. 8.
[1] Śak. I. pp. 822, 823, and 837 (*valkalena*); Amar. 6, 110-111. p. 157.
[2] Kum V. 30.
[3] On the authority of Prof. C. von Fürer Haimendorf. Specimens of bark-cloth in British Museum, Calcutta Museum and with Professor Haimendorf of the School of Oriental and African Studies.

from embroideries, at least four surviving techniques have been identified: *bandhāna* or ordinary tie-and-dye work, double tied-resist dyeing in which warp and woof are dyed separately before weaving, according to the pattern required, brocading, and fine muslin weaving. The most prominent types of design are composed of bands alternatively filled with geometrical devices, such as chevrons, circles, stripes, checks, etc., and formal floral motifs or scrolls, sometimes enlivened with processions of sacred geese (*haṁsa*) or lions. Diagonal bands of geese also appear, as well as patterns made up simply of dots or sometimes groups of dots.[4]

The manufacturing of oil was another essential industry in our period. It was generally produced from mustard seed,[5] both black[6] and white[7] sesamum,[8] linseed,[9] and ingudi.[10] The use of ingudi oil[1] for lighting lamps, curing boils and for hair is referred to in Kālidāsa. It was a flourishing industry in our period and the oil-men living in the same locality formed themselves into guilds for their common interest. Thus, during the reign of Skandagupta, in the city of Indrapura (Indore) there was a famous guild of oil-men whose head was Jīvanta.[2]

Cosmetics, perfumes and unguents were used both by men and women. Kālidāsa gives an exhaustive list of these articles of luxury in his Ṛitusaṃhāra and in the description of the marriage ceremony of Umā and Śiva in the Kumārasambhava and of Indumatī and Aja in the Raghuvaṃśa. There are also ample references to the use of cosmetics by both sexes in the Kāmasūtra of Vatsyāyana. Varāhamihira in his Bṛihatsamhitā deals exhaustively with the preparation of perfumes, hair-oil, etc.[3] A large variety of fragrant powders, scented hair oil, incense, collyrium, ointments, pastes and lac dye for the feet were produced in order to satisfy the demands of the age. The chief cosmetics[4] were *kāleyaka, kālāguru* (black agaru) *śuklāguru* (white

[4] (a) Codrington—I.A. 1930, pp. 159-162; Plates p. 160—"A" costumes and "B" textiles.
(b) Irwin—*The Art of India and Pakistan,* etc. p. 203.
[5] Amar. 9. 17, p. 203.
Bṛihat: XXIX. 5.
[6] Amar. 9. 19. p. 204.
[7] Ibid. 3. 189. p. 316.
[8] Ibid. 9. 19. p. 204; 4. 76. p. 99; Bṛihat V. 75, XXV. 2.
[9] Ibid. 9. 20. p. 204.
[10] Ibid. 4. 95. p. 104.
[1] Raghu XIV. 81; Śak. ii, IV, pp. 848, 903.
[2] Fleet, p. 70, L. 8.
[3] Bṛihat LXXVII:—A whole chapter is written on it.
[4] Raghu VI. 60; XIV. 12; XVI. 50; Māl. III. p. 1045; Kum. V. 34; VII. 9, 14, 15, 17, 23, 33. Ṛitu. i, 5 (lakshārasa); ii, 21; IV. 2, 5; V. 5, 9, 12; VI. 13. Acc. to Monier Williams *Kāleyaka* is a kind of fragrant wood; but from Kālidāsa we can assume that it was a kind of fragrant paste.

agaru), *harichandana* (a kind of yellow pigment looking like sandal paste), *manaḥśilā* (realgar), *haritāla* (orpiment), *lodhra-dust, dhūpa, kuṃkuma, gorochanā,* and *alaktaka* (lac-dye for reddening the lips and the feet). Most of these have still retained their old names and are used during the *Durgā-pūjā* ceremony, as the cosmetics of the goddess Durgā.

Besides these, sandal paste[5] was commonly used. Sandal wood was rubbed into a paste or oil was extracted from it and both paste and oil were popularly used in the toilet and in all ceremonial occasions. Sandal was chiefly a south Indian product, for Kālidāsa mentions that near the Kāverī and the Tāmraparnī river[6] there were numerous sandal-wood trees. This wood had a wide market throughout India. Even today Mysore is specially famous for sandal products.

Besides all these products liquor was probably produced throughout the country, for Kālidāsa gives ample references to wine-drinking and wine-selling. Not only man but also women indulged in drinking. It was believed that intoxication gave a special charm to women.[7] In the Mālavikāgnimitra, Irāvatī, the wife of Agnimitra, is seen in a state of intoxication.[8] In the Kumārasambhava Śiva himself drinks wine and makes his wife drink it.[9] In the Śakuntalā one *nāgaraka* and two constables indulge in liquor.[10] We have also seen that the whole army of Raghu drink *tāḍī* (fermented juice) extracted from coconuts.[1] There are also ample references in our literature to liquor shops, which we shall mention later. All this goes to show that liquor was largely manufactured and gave a very profitable occupation to both the producer and the seller.

Considering the importance of industrial products in every-day life, our Smṛiti writers lay down certain rules for apprenticeship in different crafts. If a young man wishes to be initiated into the art of his own craft, with the permission of his relations he must go and live with a master, the duration of his apprenticeship having been fixed. The master shall teach him at his own house and feed him. He must not employ him in other types of work, and should treat him like a son.[2] But if one forsakes a master, who instructs him and whose character is exceptionally good, he may be compelled by forcible means to remain at the master's house; and he also deserves punishment. Though his

[5] Ṛitu I. 2, 4, 6; II. 21; III. 20; V. 3; VI. 6, 12; Raghu XVII. 21.
[6] Raghu IV 45, 48-52.
[7] Kum. III 38.
[8] Māl. III. p. 1053, p. 1055.
[9] Kum. VIII. 77.
[10] Śak. p. 938.
[1] Raghu IV. 42.
[2] Nār. V. 16, 17.

course of instruction be completed, an apprentice must continue to reside at the house of his master till the fixed period has expired. The profit of whatever work he may be doing belongs to his master. It is also laid down that when he has learnt the art of his craft within the stipulated period, the apprentice shall reward his master as plentifully as he can, and return home after having taken leave of him.[3] But Bṛihaspati is very precise in that respect. He states that crafts consisting of work in gold, base metal and the like, and the art of dancing and the rest, are termed human knowledge; he who studies them should do work in his teacher's house.[4]

The aforesaid rules bring out several important features. First, there was apparently a system of bond under which the apprentice and the teacher were bound to each other for a fixed period. The text stresses fairly the obligations of both the parties. As regards the duties of the teacher, he had to adopt the trainee as his own son, and treat and feed him as such. He should teach him whole-heartedly and honestly. The master was competent to make him do the work strictly related to the craft of the trainee, but was not free to exploit his labour by employing him in other kinds of work. Equally strict were the obligations under which the trainee was bound to his teacher. If through the efficiency of the teacher or by his own intelligence he attained proficiency in the craft before the expiry of the stipulated period, he was not free to leave his teacher, but had to serve his teacher quite faithfully during the rest of his period. The fruit of his labour would thus be a good reward for his teacher.

The pupil is expected always to be humble before his teacher, for Nārada states that learning is like a river, ever advancing to a humbler level; therefore, as one's knowledge grows broader and deeper, one should become ever more humble towards the source of one's knowledge.[5]

Thus, the essence of the whole system of technical education is that the young craftsman is brought up and educated in the actual workshop of his master, who may have been his own father. Where the master is kind and conscientious the apprentice stands in a very affectionate relation to his teacher, and from this attachment he can very easily imbibe and assimilate the special skills and excellences of his master. Thus, the very intimacy and depth of the personal relationship between the teacher and the taught solve to a great extent the difficulties of the educational system, which is impossible in the case of a busy

[3] Nār. V. 18-20; Raghu V. 20-21.
[4] Bṛi. XV. 7.
[5] Nār. V. 12.

teacher in a modern technical institute, where he is concerned with his students only for a few hours in the week. We must recognise, however, that the apprenticeship system was open to grave abuses, if the master was oppressive, as is indicated from a passage in the Mahābhārata[6] of the earlier period.

During the Gupta period pottery, metal work, jewellery, minting of coins, weaving, embroidery, dyeing, stone-working, ivory-work and wood-work made unprecedented progress. There is nothing to show that the state itself played a very important part in industrial production, as it did in the Mauryan period; the iron pillar of Meharauli, however, seems certainly to have been made in a royal foundry, no doubt chiefly concerned with the manufacture of arms and armour. This pillar and the Sultanganj Buddha can scarcely be the work of individual founders working on a cottage-industry basis. Yet it would seem that most industries were carried on by individual families or guilds, as will be shown later. One of the reasons for the progress of the industries seems to have been the esteem in which the artisans were held. They are often noticed in our epigraphs in the most respectful manner.[7] Moreover, the general peace and security in the Gupta period naturally created conditions for the unfettered development of various industries.

[6] Mbh.—Ādiparva III 83. p. 48 ⟨Roy's Edit. 1810 Cal.⟩ "duḥkhābhijño hi gurukulavāsasya śishyān parikleśena yojayitum neyesha (nesha)".
[7] Fleet. pp. 118, 122, 127, 131.

Chapter VI

TRADE AND COMMERCE

Trade is the natural corollary of industry, and it is the main channel of the distribution of industrial products. From the Mauryan period, if not before, trade both internal and external was usually vigorous in most parts of India. Trade had a very good effect on the life and culture of the Indian people as a whole, for from that time onwards the northern part of India was more or less closely connected with southern India. Each of these regions had to depend to some extent on the mutual contribution of the products of the other. Moreover, from this time trade between India and the east and west was successfully carried on both by land and sea. During the Gupta period India had commercial intercourse with Egypt, Greece, Rome, Persia, Arabia, Syria and Ceylon, and in the east with Cambodia, Siam, Sumatra, the Malay Archipelago, and China. Thus, for a time India became a veritable citadel of international commerce.

I. Internal Trade:

As today, there was probably a market serving a number of villages, as is suggested by Amara's mention of markets.[1] In such a market a portion of the villagers' produce was sold or sometimes exchanged[2] for other necessary articles for local consumption. But most of the surplus produce was handed over to the traders and merchants[3] in the towns, and thence was dispatched to trade centres in other parts of the country or exported to other countries. The imported merchandise was distributed by the same machinery working in the opposite direction.

Moreover, through these activities certain places became prominent, and towns had long existed around centres of trade. Kālidāsa gives a very good description of the town market and its business transactions. He describes an urban market place (*vipaṇi*) with big shops lined both sides of the highway.[4] Besides other shops, we read of liquor shops;[5] and of people flocking to drink there.[6] The high street

[1] Amar. 2. 2. p. 74.
[2] Amar. 9. 80. p. 218.
[3] Ibid. 9. 78, 79. p. 217.
[4] Raghu XIV 30, XVI 41; Amar. 2. 2. p. 74; 3. 52. p. 282; Mṛichchha III. p. 82.
[5] Śak. p. 938.
[6] Amar. 10. 43. p. 235.

of the market (*āpaṇamārga*)[7] was beautifully decorated on the occasion of the marriage of Śiva, while on the river, boats plied and ferries ran,[8] apparently with cargoes and passengers.

The traders had long formed a separate class. They enhanced the country's wealth by means of foreign trade, and considering this Kāmandaka advises the King specially to patronise the trading class.[9] Thus in the Mṛichchhakaṭika,[10] Madanikā refers to a merchant youth who has earned an ample fortune by visiting many countries.

There were big (*pradhāna-vyapāriṇaḥ*)[1] and small traders. The latter presumably used to satisfy the small demands of the locality; but the big merchants would collect large quantities of goods from the centres of production, and send them to distant countries, where they might be sold at a higher price. For the purpose of inland transport they engaged carts drawn by bullocks,[2] and also employed hired labour for carrying their merchandise from one place to another.

There were certain specific rules for hiring a conveyance and for engaging hired labour for mercantile purposes. When a merchant hires a conveyance (boats, carts, etc.) or beasts of burden of another for the purpose of transporting merchandise, and afterwards does not transport it for some reason or other, he must pay a fourth part of the promised hire to the owner of the conveyance. When, however, he takes the conveyance and leaves it, after having completed one half of the journey, he must pay the whole hire. Moreover, if a carrier fails to transport the goods entrusted to him he receives no wages; on the other hand, he shall be compelled to pay twice the stipulated amount to the employer, if he raises difficulties at the time of starting.[3] The earlier law-giver, Yājñavalkya, further explains this rule: when a man raises objections and refuses to convey goods on specially important accasions, such as weddings, or on any auspicious occasion for undertaking a journey, a heavy fine should be imposed on him.[4] It is also laid down that when the merchandise has been damaged by the carrier's fault, he shall have to make good every loss. But he is not to compensate such loss as is caused by fate or by the King.[5]

[7] Kum. VII 55.
[8] Raghu XIV 30.
[9] Kāman. V. 78-79.
[10] II. p. 50.
[1] I.A. 1910. p. 204. "Pradhāna-vyapa ∠ārinaḥ?∖" and Bṛihat. V. 21.
[2] I.A. 1910, Pl. 2; p. 201.
(a) Mṛichchha VI. pp. 179-185—Indirect references.
(b) Amar. 9. 65. p. 214—cattle for special burden.
(c) Amar. 9. 66. p. 214—cattle for carriage.
[3] Nār. VI. 7, 8.
[4] Yāj. ii, 197.
[5] Nār. VI 9.

We have a reference to two types of merchants in our period, *Śreshṭhī* (or *Nagara-sreshṭhī*) and *Sārthavāha*.[6] They are very different in their individual capacity. The term *Śreshṭhī*[7] in Sanskrit means no more or less than *Seṭh* in Bengali or Hindi, a merchant. Sometimes by virtue of his wealth and influence he might be the chief of the trading community in a city. Thus his wealth, popularity and influence over his own community and the people at large were the reasons for his selection as one of the important members of the town administration (*adhikaraṇa*).

Besides their own business, these *Śreshṭhins* were money-lenders or bankers. Even today a class of very wealthy merchants is known as *Seṭh* (Sanskrit *Śreshṭhin*) in India. Thus Dr. Basham has rightly observed, "At all times until the coming of the Europeans, banking in India was a by-product of trading, and most *Śreshṭhins* had other sources of income besides money-lending. They appear as leading members of guilds, often fabulously wealthy. Though the craftsman frequently sold his wares direct to the consumer, the peasants' surplus products were largely in the hands of middlemen, and a class of large merchants, as distinct from small traders and pedlars, existed at least from the time of the Buddha".[8] Moreover, from the Mudrārākshasa, we know that Chāṇakya appointed Chandanadāsa as the merchant-in-chief in all the cities of the kingdom.[9] He probably corresponded to the

[6] E.I. XV. p. 130. Plate I; Pl. 2. p. 133; Pl. 4. p. 138; and Pl. 5. p. 142. XX. p. 61.

[7] The Problem of the Seṭṭhi in Buddhist Jātakas: by Ivo Fišer:—Archiv. Orientalni XXII 1954, pp. 238-265. According to Fišer in the earlier period (i.e. in the Jaiminiya-Brāhmaṇa of the Sāma-Veda II 152), the term *Śreshṭhi* means a nobleman, a leader. Many Jātaka stories also state that the *Seṭṭhi* originally occupied himself with agriculture—Jāt. II 211 (165); II 276 (378); III 354 (162); IV 495 (363).

But with beginning of commerce a new kind of occupation arose. The *Seṭṭhi* managed the exchange of goods between town and country and thus the *Seṭṭhi* of the town had a business friend in the province; with him he exchanged the products of the town artisans for various products from the province. There are instances of this exchange recorded in the Jātakas I. 90 (377) and I 125 (451). Thus, by examining more than 80 passages from the Jātakas (vide index of this articles p. 266) Fišer comes to the conclusion that *seṭṭhis* were the rich business men of the towns and the provinces. Apart from this business, sometimes they used to lend money to others, and even the King himself had to maintain good relations with them. Only in one Jātaka IV. 445 (38) does the *seṭṭhi* seem to have some connection with the guild. Mrs. Rhys Davids, however, draws a surprising conclusion from this passage: "This is the only passage known to me stating explicitly the connection between guild organisation and the minister, commonly called 'treasurer' (*seṭṭhi*)"—Notes—J.R.A.S. 1901. p. 865, f.n. 2 (Vide *Mahā-vaḍḍhaki*—Jāt. VI 332).

[8] The Wonder, etc. p. 222.

[9] VII. p. 211.

nagara-śreshṭhin of our inscriptions, but was attached to the central and not the local government.

According to the descriptions of the Raghuvaṁśa, the trade routes on land were ordinarily made very secure from robbers, and on sea from pirates. Caravans travelled safely over mountains as if their own houses, over rivers as if wells, and over forests as through gardens.[10] But it seems to us an exaggerated account of poet Kālidāsa. Roads were sometimes dangerous for the caravan merchants, for many of the routes linking the civilised towns passed through dense forests and hills infested with robbers, wild tribes and wild animals. For this reason the traders preferred to share their peril together, and they formed themselves into large bands under the guidance of a caravan merchant (*sārthavāha*). Thus in the Mālavikāgnimitram[1] Kālidāsa gives a pathetic description of a group of merchants with such a caravan leader. A large group of traders were going to Vidiśā from Vidarbha. After the day's journey they encamped in a forest. Suddenly they were attacked by a gang of robbers. Then there was a hard fight with the caravan-guards, who were at last defeated; and all their wares were taken away by the robbers. Thus they courted miseries and misfortunes during the course of their caravan-journey, and they travelled to far distant lands with their wares not from any spirit of blind adventure, but from the love of gain. So it was quite natural for them to barter their merchandise for three or four times their original price; their great profits are fully corroborated from a Chinese passage of our period, which states that the inhabitants of Parthia (An-Shi) and India (T'ien-chu) had trade with China by sea, and its profit was a hundred fold.[2] The caravan trader (*sārthavāha*) was an important figure in city life, and a representative of the *sārthavāhas* was a member of the council (*adhikaraṇa*) of Koṭivarsha Vishaya, according to the Damodarpur copper plates.

Not only the land-routes, but also rivers were much used for trading purposes. We know from Kālidāsa that the inhabitants of Vaṅga (the riverine part of Bengal, i.e. east Bengal) were great experts in the art of navigation.[3] They are still expert navigators.

Apparently the articles of internal trade included all sorts of commodities for every day use. Nārada gives a list of commodities which are forbidden to be sold by Brāhmaṇs. The list includes milk, sour

[10] Raghu XVII. 64.
[1] Act. V. p. 1112; also vide Legge. p. 97.
[2] Translation from "Chin-shu", embracing the period from A.D. 265—A.D. 419, written before the middle of the seventh century A.D.:—Hirth's China and the Roman Orient, Sec. "F". pp. 43-45.
[3] Raghu IV. 36.

milk, clarified butter, honey, bee-wax, lac, pungent condiments, liquids used for flavouring, spirituous liquor, meat,[4] boiled rice, sesamum, juice of the soma plant, flowers, fruits, precious stones, men and women (as slaves), poison, weapons, salt, cakes, plants, garments, silk, skins, bones, blankets, animals, earthen pots, buttermilk, vegetables, ginger and herbs. But he may sell dry wood, grass (*kusha* grass, etc.), fragrant substances, *ingudi* plant, cotton thread and articles of metal. Just as today near the temples, in front of the door of the Buddhist Vihāra, there were sellers who every morning and evening would sell flowers and incense to those who wished to make offerings.[5]

These everyday commodities were perhaps chiefly sold in the village markets for local consumption. Luxury goods, on the other hand, formed the principal articles of long distance trade. Pepper, sandal wood, coral from south India, musk, saffron and yak's tail from the Himalayan region, elephants from Kaliṅga, Aṅga, and Assam, and horses from north-western India found favour in all Indian markets.[6] But these were not the only merchandise of the caravan traders. Some of the important metals, such as gold, copper, iron and mica came from south Bihar,[7] and probably gold from Mysore. The Kolar gold mine in Mysore may have been exploited at that time. Salt was imported from the sea-coast and from the various rock-salt deposits, notably from the Salt Range in the Punjab (West Pakistan) and from the Himachal-Pradesh. Certain food grains were probably traded to scarcity areas from the more prosperous regions during shortage and famine.

Nārada lays down certain beneficial rules for the travelling merchants. If a travelling merchant returns to his country with merchandise and suddenly dies, the King shall preserve his goods till his heir comes forward. But on failure of an heir, he must hand them over to his other relatives. If no relative can be found, he shall keep them well guarded for a period of ten years. After ten years, if the goods are still unclaimed by an heir, the King will commit no offence in appropriating this property.[8] In Śakuntalā[9] we read of a great commercial magnate of Hastināpura who perished in a shipwreck; but his merchandise was duly handed over by Dushmanta to his pregnant wife.

[4] Legge. p. 43—about the sale of meat, and Amar. 10. 14. p. 228.
[5] Nār. I. 61-65 and Appendix I.; Legge p. 38, p. 83.
[6] Cosmas. XI. pp. 359, 365-6; Ref. The Male (Malabar) grows pepper (Cosmas XI. p. 366) from there it was imported throughout India. The bull-stag or ox-deer were used in India for the transport of pepper and other stuffs packed in saddle-bags (Cosmas XI. p. 359); Raghu IV. 40, 62, 69-70, 83, VI. 27.
[7] Supra. pp. 99-101.
[8] Nār. III. 16-18.
[9] Śak. VI. pp. 962-3.

Elaborate trade practices demanded market regulations from the hand of our law-givers. Thus, Nārada and Bṛihaspati laid down numerous laws and regulations to safeguard the interest of buyers and sellers alike. After having purchased an article for a certain price, when a purchaser thinks that he has made a bad bargain, he may return it to the seller on the same day in an undamaged condition, and receive his money back. When the purchaser returns it on the second day after the day of purchase, he shall lose the thirtieth part of the price. He shall lose twice as much on the third day. After that the purchaser cannot return it. So in every case the intending purchaser should first examine an article before buying it in order to find out its good and bad qualities. But that which has been approved by the purchaser after close examination cannot be returned to the vendor. The period of examination varies with different types of merchandise. Milch cattle may be examined for three days, beasts of burden for five days; and in the case of precious stones, pearls, and corals, the period of examination may extend over seven days.[10] But the bipeds shall be examined within half a month, a female within one month, all sorts of grains within ten days, iron and clothes within a day. But no article should be returned in bad condition, if it was not in that blemished state at the time of purchase.[1]

Bṛihaspati is precise regarding the rescission of purchase and sale. In his opinion the purchaser shall examine a chattel himself and show it to others for examination. When, after examining and approving it, he has accepted it, he is not at liberty to return it again. But a dishonest seller, who sells an article fully knowing its blemish, shall pay twice its value to the purchaser and a fine of the same amount to the King. Moreover, if, within a certain period, a blemish is discovered anywhere in the commodity purchased, it shall be returned to the vendor and the purchaser shall recover the price. Bṛihaspati finally lays down that what has been sold by an intoxicated or insane person, or at a very low price, or under the impulse of fear, or by one not his own master, or by an idiot, shall be relinquished by the purchaser. But if he refuses to give it, it may be recovered from the purchaser by forcible means.[2]

Dishonest dealings were prevalent in the market. It was said that a merchant not a cheat, a goldsmith not a thief, a courtezan not greedy, were hardly possible to be found.[3] So Nārada and Bṛihaspati

[10] Nār. IX. 2-5.
[1] Nār. IX. 6-7.
[2] Bṛi. XVIII. 3, 4, 7, 9.
[3] Mṛichchh. V. pp. 144-145.

framed laws against adulteration. A merchant who conceals the blemish of an article which he is selling or who mixes bad and good articles together, or sells old articles as new after repairing them, shall be compelled to give the double quantity to the purchaser and to pay a fine equal in amount to the value of the articles. Those who also make false gold or fictitious gems or coral shall be compelled to restore their price to the purchaser, and to pay the double amount to the King as a fine. Moreover, when a man shows one article, which is faultless, to the intending purchaser, and afterwards delivers another article, which has a blemish, he shall be compelled to pay twice its value to the purchaser and a fine to the King.[4]

Nārada and Bṛihaspati lay down further rules in connection with the non-delivery of sold chattels. If there has been a fall in the market value of the article in question, which is still with the seller, the purchaser shall receive both the article itself and the difference in point of value. If the article sold should have been injured, or destroyed by fire, or carried off, the loss shall be charged to the seller, because he did not deliver it after it had been sold by him. But when a purchaser does not accept an article purchased by him, which is delivered to him by the vendor, the vendor commits no wrong by selling it to a different person.[5]

It is for the sake of gain that merchants are in the habit of buying and selling merchandise of every sort, and that gain should be in proportion to the price already paid. Therefore, merchants are told to fix a just price for their merchandise according to the locality and season, and to refrain from dishonest dealings. By adhering to these principles the profession of a merchant becomes an honest one.[6] But, unlike the Mauryan period,[7] we have no reference to prices being fixed by state in the Gupta Empire.

A sale effected by one other than the rightful owner was not valid. Both Nārada and Bṛihaspati give equal emphasis to this rule. The owner of a chattel, which has been sold by a stranger who has no right of it, may reclaim it from any one who happens to be possessed of it. No blame attaches to a sale effected in public, but a clandestine sale is viewed in the same light as theft according to law. If a man buys from a slave who has not been authorised to sell by his master, or from a rogue, or in secret, or at a very low price, or at an improper time, he is as guilty as a seller. The purchaser must not make a secret of

[4] Bṛi. XXII. 13, 18; Nār. VIII. 7.
[5] Nār. VIII. 5, 6, 9.
[6] Ibid. VIII. 11, 12.
[7] Arth. ii, 21; ii, 16 (Indirect reference).

the way in which he came by a chattel purchased by him. He is free from blame, if he can point out the way in which the chattel was acquired by him. In any other case he is equally guilty with the vendor and shall suffer the punishment of a thief. Thus, every purchase, in order to be legitimate, had to be concluded in the open market, on a market day, or hour, or at least the purchaser might be required to produce the vendor, when the purchase had not been made in the open market. When stolen property was sold, the vendor had to restore the property to the rightful owner, and to pay to the buyer the price for which it was sold to him; besides that he had to pay a fine to the King. Such is the rule in the case of a sale effected by another than the rightful owner.[8] When the purchase of a stolen article has taken place before an assembly of merchants, the King's officers being aware of the purchase, but when the vendor's habitation is unknown, or when the purchase is publicly declared; even in these cases the owner may recover his own goods by paying half the price tendered. Moreover, a purchase from an unknown vendor is one fault in that case, want of care in keeping it is another, these two faults are viewed by the wise as legitimate grounds of loss to the unauthorised seller and his buyer. Of course, when a man purchases a commodity at a fair price, and the purchase has been previously announced to the King, there is no wrong about it; but he who makes a fraudulent purchase is a thief. That should be known as a fraudulent purchase which is made at an unreasonably low price, in the interior of a house, outside of the village, at night, in secret, or from a dishonest person.[9]

Business deeds or documents having the description of property purchased and the price paid for it were known among the businessmen.[10] Amara[1] also refers to such deeds and the ratification of bargains. Of course, these were probably only drawn up in the case of purchasing the articles of importance and value. Coins were used for purchasing,[2] and cowries[3] served the purpose of currency in small transactions. Sometimes goods were also exchanged for goods.[4]

Prices in the Gupta period were not always stable, and fluctuated according to the demand and the supply of the commodities in the market. Thus, under certain circumstances, the price of corn, oil, essence, grain, gold, sea-products, honey, perfumes, ghee and flowers,

[8] Nār. VII. 2-5; Vishṇu V. 164-166.
[9] Bṛi. XII. 3, 4, 10-12.
[10] Ibid. VI. 13.
[1] Amar. 9. 82, 83. p. 218.
[2] Vide Ch. IX; Appen. II.
[3] Legge p. 43.
[4] Amar. 9. 4. p. 201; p. 80. p. 218.

and other commodities rose rapidly, sometimes amounting to double and triple the normal price. But under reverse conditions merchandise became very cheap and sometimes merchants sustained heavy loss.[5]

Most probably, just like land measures, prices, weights and measures varied in their standards from place to place. References are quite common in our literature and inscriptions to weights such as *pala, āḍhaka, prastha, khāri, droṇa,* etc., in the measurement of food-grains and other similar articles. Moreover, for weighing different articles, weighing balances[6] (*tulā*), and for measuring length, measuring rods[7] are frequently mentioned by Kālidāsa and others.

II. Foreign Trade:

As the inland trade of India was carried on by roads and rivers, foreign trade was also carried on by sea and land. There are numerous references to sea-trade in our period. But the sea traffic was not free from dangers, from pirates, hidden rocks, storm and the bad condition of the vessels.[8]

Thus Śakuntalā[9] mentions the death of a great merchant of Hastināpura from a shipwreck. In the Bṛihatsaṁhitā we have many references to the prosperity and adversity of sea-borne trade, shipping and the good and bad conditions of sailors and sea-faring merchants.[10] There were many difficulties in sea travel and sea-borne trade, as can be seen from the account of Fa-hsien. In the course of his travels from Ceylon to China, Fa-hsien took passage in a large merchant vessel which had 200 other passengers. A small boat was tied to it for provision against damage or injury of the larger vessel. The vessel sprang a leak and the water came in. The merchants wished to go to the smaller boat. But the men already on board the latter, fearing that too many would come, cut the connecting rope. The merchants were greatly alarmed, feeling in danger of instant death. They, being afraid that the vessel would fill, took their bulky goods and threw them into the water. Fa-hsien also took his pitcher and washing basin, with some other articles, and cast them into the sea. In the open sea the tempest arose and continued day and night, till on the thirteenth day the ship was carried to the side of an island. There the leak was dis-

[5] Appendix I.
[6] Raghu VIII 15; XIX 8. 50; Kum. V. 34; Amar. 5. 17. p. 349; Amar. 9. 85. p. 219.
[7] Kum. I. I. (*mānadaṇḍaḥ*).
[8] Legge pp. 111-113—Reference to the leakage of the Fa-hsien's ship in course of his voyage from Ceylon to China.
[9] Śak. VI. pp. 962-963.
[10] Appendix I.

covered and it was stopped, on which the voyage was resumed. On the sea there were many pirates, to meet whom was the speedy death.[1]

Continuing the narrative of his voyage, Fa-hsien says that the great ocean spread out in a boundless expanse, and it was very difficult to know east and west. Only by observing sun, moon and stars was it possible to go forward. This statement shows that at that time there was no mariner's compass to direct the seaman. If the weather was dark and rainy, the ship went as she was carried by the wind, without any definite course. In the darkness of night only the great waves were to be seen breaking one over another, with huge turtles and other monsters of the deep all about. The sea was deep and bottomless, and there was no place where they could drop anchor and stop. But when the sky became clear, they could tell east and west, the ship again went forward in the right direction. If it had come to any hidden rock, there would have been no way to escape.

However, after ninety days of hardship Fa-hsien's vessel arrived at Jāvā (*Java-dvīpa*). From there Fa-hsien again embarked in another large merchant ship, accompanied by two hundred other passengers. They carried provisions for fifty days. They took recourse to the north-east, intending to reach Kwang-Chow. But on the way they encountered black wind and tempestuous rain. After leaving Jāva more than seventy days passed before they reached land. The provisions and water were nearly exhausted. They used the salt-water of the sea for cooking and carefully divided the fresh-water, each man getting two pints a day only. After so much trouble and suffering at last they reached Ch'ang-Kwang (present Phing-too-Chow).[2] Such was the peril of the sea-going merchants in our period. Similar difficulties are also noticed by another contemporary Chinese record.[3] Merchants from Parthia (An-shi) and India (T'ien-chu) used to go to China by sea for their profitable trade. For this they had to undertake a very difficult voyage. The water of the great sea which they used to cross was salt and bitter, and unfit for drinking purposes. So the merchants travelling to and fro were provided with three years' provision. As a result of this the ocean traffic was rather restricted.

Not only the sea-routes, but also the land-routes to foreign countries were unsafe for the caravan merchants, for we know from the accounts of Fa-hsien that the Central Asian route from China to India was full of

[1] Legge pp. 111-113.

[2] Legge. pp. 111-114

[3] China and the Roman Orient. pp. 43-45. Sec. "F". Trans. of "Chin-shu", written before the middle of the seventh century and embracing the period A.D. 265-419; Ch. 97, sec. 16 and 18.

perils.[4] Despite these dangers and difficulties, both the sea and the land routes were not abandoned by the merchants and missionaries. More than a dozen Buddhist missionaries of our period went to China from India by both of these routes.[5] Thus, the difficulties of travel could never prevent the ancient mariners, caravan traders and missionaries from visiting foreign countries..

From the accounts of Cosmas[6] we know that the most notable ports of trade in India were Sindhu (Sind), Orrhatha (Gujrāt), Calliana (Kalyāna), Sibor (Chaul or Chenwal, a seaport situated 23 miles to the south of Bombay), and then the five marts of Male (Malabar) which exported pepper,—Parti, Mangarouth (Mangalōr), Salopatana, Nalopatana (Nelcynda) Pondopatana (Ptolemy's Podoperoura—between Mangalōr and Calicut). His account is further supplemented by Fa-hsien, who states that in the east Tāmralipti (modern Tamluk, in West Bengal) was the great emporium of trade.[7] All these ports maintained regular maritime relations with Ceylon, Persia, Arabia, Ethiopia, the Byzantine Empire, China, and the islands of the Indian Ocean.

From the very earliest time India had trade relations with Ceylon.[8] But in our period their relations seem to be very intimate. Ceylon played a distinct role both in the foreign trade of the island and in the inter-oceanic commerce between the East and the West. Situated in the middle of the Indian Ocean and to the extreme south of the Indian Peninsula, Ceylon enjoyed a stategic position commanding the sea-

[4] Legge. pp. 10-16.

[5] India and China: Appendix III. pp. 203-220.
(i) Bodhiruci (P'u-ti-lui-che) in 508 A.D. by Central Asian route.
(ii) Buddhabhadra—at the beginning of the fifth Cen. A.D.
(iii) Buddhajīva in 423 A.D.
(iv) Buddhaśānta in 520 A.D.
(v) Buddhavarman—about 433 A.D.
(vi) Buddhayaśas—between 410 to 413 A.D.
(vii) Dharmakshema (by the Cent. Asian route) in 5th Cen. A.D.
(viii) Dharmakritayaśas (by sea-route) in 481 A.D.
(ix) Guṇavarman in 413 A.D. (by sea route).
(x) Guṇabhadra in 413 A.D. (by sea).
(xi) Jinagupta in 557 A.D. (by Cent. Asian route).
(xii) Paramārtha in 546 (by sea).
(xiii) Saṅghabhadra in 488 A.D. (by sea).
(xiv) Vimalāksha in the 5th cent. A.D. (by land).

[6] Cosmas XI. pp. 366-367.

[7] Legge. p. 100.

[8] (a) Mahāvaṃśa XXI. 10—Two Tamils, Sena and Guttaka, sons of a horse-dealer, assumed kingship after King Sūra Tissa and ruled for twenty years.
(b) Vaḷāhassa Jātaka (Vol. II No. 196): Reference of Indian merchants in Ceylon.
(c) Codrington's Ceylon Coins and Currency. p. 16: According to him all the *purāṇas* or *kahāpaṇas* "current in Ceylon were imported from India".

routes that linked one side of the ocean with the other. The best notice of Ceylon's importance as an entrepôt is found in the work of Cosmas.

According to the description of Cosmas,[9] Ceylon was called by the Indians, Sieladība (Simhaladvīpa) and by the Greeks Taprobanē (Tāmraparṇī). It lay on the other side of the pepper country (south India). The island had a church of Persian Christians, who had apparently settled there as traders and merchants. Being in a central position, it was much frequented by ships from all parts of India and from Persia and Ethiopia, and it likewise sent out many of its own.[10]

From the remotest countries east of the Cape Comorin, Ceylon received silk, aloes, cloves, sandalwood and other products. These again came from the Male (Mālābār), where pepper grew. Calliana (near Bombay) exported copper and sesame-logs,[1] and cloth for making dresses, for it was also a great place of business. From Sindhu came musk, castor oil and spikenard.[2] The musk and spikenard were evidently products of the hills taken down the Indus and exported from the ports near its mouth. Moreover, the King of Ceylon gave a good price both for the elephants and for the horses coming from the Indian marts. The elephant he paid for by cubit measurement, for the height was measured from the ground at so many coins for each cubit, fifty it might be, or a hundred or even more. The Indian traders brought horses to him from Persia and the King of Ceylon used to buy them, exempting them from custom duties.[3] Cosmas concludes that Ceylon received imports from all the above mentioned marts of India, and passed them on to the remoter parts, while at the same time Ceylon exported its own products to the Indian marts.[4]

Tāmralipti (mod. Tamluk) also had very good commercial relations with Ceylon. The Pāli literature of Ceylon contains several references to voyages made to and from this port.[5] It is not, however, explicitly stated that the object of these voyages was trade, but we may safely assume it to have been such, since one can hardly expect special ships to have been fitted out for embassies, or to serve the needs of a few passengers. Fa-hsien, too, embarked for Ceylon on board a merchant vessel from Tāmralipti in the fifth century A.D.[6]

We know very little about Ceylon's export trade to India.

[9] XI. pp. 363-365.
[10] XI. pp. 363-365.
[1] We cannot identify these. Possibly some form of aromatic wood such as sandal or aloe, or perhaps some form of cinnamon.
[2] Cosmas XI. pp. 363-367.
[3] Ibid. pp. 371-372.
[4] Ibid. XI. p. 363.
[5] Mahāvaṃśa—XI. 38; XIX. 6. ⟨P.T.S. Ed.⟩.
[6] Legge. p. 100.

Varāhamihira mentions Ceylon along with Tāmraparṇi, Pāṇḍya, Paraloka, Surashtra and other regions as the home of good pearls from oysters.[7] Fa-hsien also notices the pure and brilliant collection of pearls from the sea of Ceylon.[8] These may have been one of the exports of Ceylon to Tāmralipti (Tamluk) and the other north Indian marts; and probably silver was also imported into India from the silver mines of Ceylon, for there were no silver mines in India. Moreover, the Rājataraṅgiṇī mentions that cloth manufactured in Ceylon was worn by the queen of Kāshmīr.[9] The export of cloth is also attested to by the Tīrthakalpa, a later Prakrit work, where it is stated that a large quantity of cloth was taken to Bharukachchha (Broach) by a merchant named Dhaneśvara from Ceylon.[10] The anonymous author of the Periplus also mentions that Ceylon produced muslins.[1] All these accounts undoubtedly go to show that there was a brisk trade between Ceylon and India.

India's commercial relations with China were also flourishing. More than a dozen Buddhist missionaries went to China by the Central Asian route and by the sea-route from India. Fa-hsien himself went to China on a merchant vessel.[2] There were many difficulties in both these routes. The envoys of the two Han dynasties (Chang Ch'ien and Pan Ch'ao) sent to India (T'ien-Chu) and Ta-ts'in (or Li-Kin, i.e. country of the western part of the sea) had experienced special difficulties in their travels. Despite these difficulties, traffic in merchandise was carried on with China.[3] The chronicle "Sung-chu" further states that all the precious things of land and water came from India. Gems made of rhinoceros's horns and kingfisher's stones, serpent pearls (shē-chu) and asbestos cloth,[4] there being innumerable varieties of these curiosities, were imported into China from India. According to the Chin-hsi-yü-chiu-t'u rare stone came to China from the countries of Chi-pin (Afghanistan or Kāshmir).[5] Moreover, po-tie (a fine textile,

[7] Bṛihat. LXXXI, 2.
[8] Legge. p. 101.
[9] Rājt. I. 294—297.
[10] A.S.I. (A.R.) 1905-6. p. 144.
[1] Schoft. p. 47. (Taprobane—Ceylon).
[2] Legge. pp. 111-114.
[3] China and the Roman Orient—Tran. from "Sung-Shu" written about A.D. 500 and embracing the period A.D. 420-478. Sec. "G" pp. 45-46. Vide also, p. 40.
[4] It is impossible to say what the jewels and cloths are. Sinologists apparently find them equally difficult to identify.
[5] China and the Roman Orient. pp. 67-72 Sec. "P"—Tran. of "Wei-lio"—quoted at the end of the 30 of "the San-Kuo-Chih", based on various records referring to the period of the three Kingdoms from A.D. 220-264, and compiled prior to A.D. 429.

probably muslin) was produced in India;[6] and as early as A. D. 430 Indian po-tie was sent to China from Ho-lo-tan on Jāvā.[7]

The accounts of Central India in the Annals of the Liang Dynasty,[8] which ruled from A.D. 502—A.D. 556, expressly state that yü-kin (various kinds of saffron and aromatics) was produced mostly in Kashmir (Ki-pin), and was exported to the different parts of India, Tibet, and China. In A.D. 647 the country of Kia-P'i in India offered yü-kin (saffron and aromatics) to the court of Yü-Kin-hiaṅ.[9] The reference to saffron would suggest that Kia-P'i is Kashmir, but this region is generally known in China as Ki-Pin at that time. Perhaps Kia-P'i was Kāpiśa, the upper Kabul valley.

There is a much earlier tribute-gift of saffron on record. In A.D. 519, King Jayavarman of Fu-nan (Cambodia) offered saffron with storax and other aromatics to the Chinese Court.[10] Thus Laufer suggests that in the sixth century saffron was traded from India to Cambodia. We also know from the T'ang Annals that India, in her trade with Cambodia and the anterior Orient, exported to these countries diamonds, sandal-wood, and saffron.[1] The T'ang Annals, further mention saffron as a product of India, Kāshmir, Uḍḍiyāna, Jāguḍa (Zābulistan), and Baltistan.[2]

The pepper-plant (hu tsiao, Japanese kośā, piper *nigrum*) finds mention among the exports of Sasanian Persia.[3] Ibu Haukal says that pepper, sandal and various kinds of drugs, were shipped from Sīfār, a famous port in Persia, to all quarters of the world.[4] But it is already enumerated among the plants of India in the Annals[5] of the Han Dynasty [which ruled from 206 B.C.—A.D. 24 (Former Han), from A.D. 25—A.D. 220 (Latter Han) and A.D. 221 to A.D. 264 (Shu. Han)]. The Yu-Yaṅ-tsa-tsu[6] refers it more specifically to Magadha,

[6] Sino-Iranica. p. 491: Nan Si, Ch. 78. p. 7a.
[7] Ibid. p. 491. Suṅ. Su, Ch. 97. p. 2b.
[8] Ibid. p. 316. Liaṅ. Su, Ch. 54. p. 76.
[9] Ibid. p. 317. T'aṅ-hui-yao, ch. 200, p. 14, a—b. This text was adopted by the "Pen-ts'ao-kaṅ-nu", ch. 14, p. 22, which quotes it from the T'ang—Annals.
[10] Ibid. p. 318. f.n. 6. According to the Liaṅ. Su. cf. Pelliot, Bull, de'l Ecole française Vol. III. p. 270.
[1] Sino-Iranica. p. 318. T'aṅ Su, ch. 221 "A". p. 10. 'b'.
[2] Ibid. p. 318—Kiu T'aṅ Su, ch. 221 "B". p. 6; 198, p. 8, b, 9; T'aṅ Su, ch. 221 A. p. 10 b.
cf. Chavannes—Documents sur les Tou-Kiue Occidentaux, pp. 128, 150, 160 and 166.
[3] Ibid. p. 374, f.n. (1); Sui-Su, Ch. 83, p. 7 b; Cou Su, Ch. 50, p. 6; and Wei Su, Ch. 102. p. 6.
[4] Sino-Iranica p. 374—Ouseley,—Oriental Geography of Ibu Haukal. p. 133.
[5] Ibid. p. 374. Hou Han Su, Ch. 118. p. 5. b.
[6] Ibid. p. 374. Ch. 18. p. 11.

using its Sanskrit name *maricha* or *marīcha* in the transcription, mei-li-ci. Laufer[7] concludes that pepper must have been imported into Iran from India; and in the opinion of George Watt it was a product of "the hotter part of India from Nepal eastwards to Assam, the Khasia hills and Bengal, westwards to Bombay, and southwards to Travancore,[8] Ceylon and Malacca", as it is today.

Thus from the above analysis we see that the volume of external trade of India with China had greatly increased in our period, for we have very few references to such trade in earlier times. We still know very little about the Chinese exports to the Indian marts, except silk. At that time Chinese silk was so very popular in the ancient world that Cosmas refers to China as the land of silk.[9] It had a good market in India, for Kālidāsa mentions this silk fabric (*chināṁsuka*)[10] as one of the most fashionable textiles among the richer sections of society. It was also in great demand in Arabia, Parthia and many other smaller states in the Middle East[1] and the Byzantine Empire; and most probably much of this silk stuff flowed into these countries from Indian traders, though certainly the Byzantines got most of their silk by the over-land route, as we shall see later. The exchange in trade and commerce, thus brought about the prosperity of the two famous lands of antiquity.

Indo-Chinese maritime relations not only affected the fortune of the two great nations, but also influenced the many other minor states and island countries through the media of sea-borne trade.

We are deeply indebted to R. C. Majumdar, P. C. Bagchi, and a few other Indologists who have unfolded many a glorious chapter of India's political and cultural relations with Indo-China, Cambodia, Champā, Burma, Siam, the Malaya Peninsula, Sumātra, Jāvā, Borneo and Bāli. But they are practically silent about their material culture and their trade relations with India. Though there are a few references to these in mediaeval times, the earliest inscriptions of South East Asia are quite silent on the subject.

In the early centuries of the Christian era India had a very prosperous trade with the West, for the Roman Empire desired the

[7] Ibid. p. 375.
[8] Commercial Products of India. p. 891.
[9] II. p. 47.
[10] Kum. VII 3; Śak I p. 838; *"Chīnapaṭṭa"* was also well-known by Kauṭilya—Sastry's trans. p. 83.
[1] China and the Roman Orient, p. 67-72: Sec. "P"—Trans. of "Wei-lio" quoted at the end of the 30th of the "San-Kuo-chih"—based on various records referring to the period of the three Kingdoms A.D. 220-264; and compiled prior to A.D. 429.

luxuries of the East in large quantities.[2] But with the fall of the Roman Empire the trade with the West somewhat declined. It revived again under the Byzantine Emperors. There were still some difficulties to the progress of Oriental trade. The final division of the Roman Empire into east and west took place in A.D. 364, and the next hundred years were terrible ones for Rome. A succession of powerless emperors held a show of authority. She was attacked by the Goths and seized by Alaric in A.D. 410. Attila, the Hūṇ, ravaged the fair land of Italy in A.D. 451. Three years later Genseric, the Vandal, seized and pillaged Rome. Rome was sacked again in A.D. 472; and in A.D. 476 it ceased to exist as an empire. Thus, reviewing the condition of the Roman Empire, Robert Sewell remarks, "This was evidently not a period, when we could expect the citizens of Rome to encourage Oriental trade".[3]

The Eastern Empire at Constantinople was first occupied as a seat of government by Constantine the Great in A.D. 330. It lasted for a much longer period and enjoyed a far greater success than the Western. Its upper classes having leisure as well as wealth, it was natural for the Asiatic trade to improve.

That Indian products found their way even to Rome at this period is clear from the fact that when Alaric spared Rome in A.D. 408, he demanded and obtained as a part of the ransom 3,000 pounds of pepper and 4,000 robes of silk.[4] Steven Runciman also points out, "The spice trade was also of considerable dimensions. The list of spices that the perfumers' guild was entitled to sell includes many items, such as pepper, cinnamon and musk, that all must have been imported from the East; and the Byzantine medical treatises, such as that of Symeon Seth, assume that all manners of Indian spices, nutmeg, galingale or cloves, are easily obtainable in Constantinople".[5]

The maritime relations between the Byzantine Empire and India are further evidenced by the discovery of Byzantine coins of the fourth, fifth and sixth centuries A.D. in Southern, Western and Eastern parts of India.[6] In the international economic life of the sixth century the Byzantine Empire played a role so important that, according to Ptolemy, all the nations carried on their trade in Roman money (the Byzantine gold coin, *nomisma* or *solidus)*, from one extremity of the

[2] Nat. His. XII 41 (18). According to Pliny, "at the lowest reckoning one hundred million sesterces (about £800,000) are taken from us every year by India, the Seres and Arabia". Cunningham's Coins of Ancient India. p. 50.
[3] Robert Sewell: Roman Coins found in India J.R.A.S. 1904. p. 607.
[4] Gibbon III Ch. XXXI. p. 312.
[5] The Cambridge Eco. Hist. of Europe Vol. II. p. 94.
[6] Sewell "Roman Coins in India"—J.R.A.S. 1904. pp. 591-637.

earth to the other. This money is regarded with admiration by all men to whatever kingdom they belong, since there is no other country in which the like of it exists.[7] Even the King of Ceylon frankly admitted the superiority of the Roman *nomisma* to the Persian *drachma*.[8]

Moreover, during the prosperous days of Justinian, the Byzantine world was no longer self-supporting. Certain habits of luxury had taken strong hold and had become virtual necessities, and these could be satisfied only by the Oriental trade. In his Law Digests,[9] Justinian gives a long list of imported merchandise in connection with his regulations on customs duties. Among the items are many, either specifically stated to be Indian or probably so. They include Indian hair[10] *(capilli Indici)*, Indian iron not liable to corrosion,[1] Indian perfume *(aroma Indica)*, pearls, sardonyx (?), ceraunium (? a kind of onyx), jacinth, diamond, sapphire, turquoise, beryl, *chelyniae* (? tortoise-shell), various Indian opiates, raw silk, silk or half-silk robes, silk yarn, Indian eunuchs, *pardi* (male panthers), *leopardi* (leopards), *pantherae* (panthers), cinnamon, long pepper, white pepper, *costus* (an aromatic plant), *costamomum* (an aromatic plant), *mardi stachys* (? a plant), ginger, malabathrum (? betel),[2] cardamom, cinnamon-wood and ivory. Another import possibly is *carpasum*. This word in Latin is taken as equivalent to the Greek *kárpason*, white hellebore, a narcotic plant.[3] But it is possible that Justinian here refers to *kárpasos*, cotton.[4]

Chief among these imports were possibly the spices and silk. Spices as condiments and for burning as incense had become virtual necessities among the Byzantine upper classes, and had to be procured at all cost. Alike in the ceremonial of the court and in the ritual of the church, incense was badly needed, and the requisite spices could be obtained only through Indian and Arabian trade.[5]

Moreover, garments made of silk had been wont to be produced in the cities of Beirut and Tyre in Phoenicia, although the makers had to import their raw material. The merchants and artisans of these

[7] Cosmas—II. p. 73. (Note on Ptolemy quoted in Cosmas).
[8] Ibid. XI. pp. 368-70.
[9] Corpus Juris Civilis—Vol. I: Institutiones Digesta etc. p. 606. Digestae XXXIX. 4, 16, 7.
[10] Perhaps the hair of the Kashmiri goat for making warm clothing Indian iron, Indian eunuchs, Indian hair, etc. are referred to twice in the same list in Justinian's Law Digest.
[1] As we see in the case of Meharauli iron Pillar.
[2] This plant has never been satisfactorily identified. We suggest the betel leaf.
[3] Lewis and Short—Latin Dictionary, S.V.
[4] Liddle & Scott's Greek English Dictionary, S.V.
[5] Arab before Muhammad. p. 113.

stuffs had lived there from ancient times, and this merchandise was carried thence to the European countries ("the whole world").[6]

During the reign of Justinian the silk traders from Byzantium and other cities were selling this fabric at an excessive price. They justified themselves by saying that they had to purchase silk from the Persian traders at a comparatively higher price than before, and that they had to pay heavier custom duties. But to regulate the silk prices all over the country Justinian enacted that one pound of silk should not cost more than eight pieces of gold, and that he would confiscate all the wealth of one who violated this law. This law had some depressive effect on the silk trade and the silk industry of the country, because of the fact that the silk merchants had to buy silk from foreign countries at a very high price.[7]

Silk garments were always very popular, and the Greeks called them "Medic"; but at the time of Procopius they were known as "*Seric*" to the Romans. In Latin *serica* means coming from China.[8] The home of silk, for the Byzantines, was thus China. But it was also produced in India long before the commencement of the Christian era[9] and so came to the West probably both from China and India.

Procopius informs us that the monopoly of the silk trade with the West was in the hand of Persians, who used to buy silk from their Indian neighbours.[10] They could thus easily impose heavy duties or, when at war with Byzantium, could stop the traffic altogether, save for such small quantities as could be smuggled through by the Arabs and Ethiopians at an exorbitant rate.

Considering all these difficulties Justinian entered into negotiations with the Ethiopian King Hellestheaeus.[1] He proposed that by purchasing silk from the Indians and re-selling it to the Romans, the Ethiopian merchants would themselves gain much money and cause benefit to the Romans, who would be no longer compelled to pay their money to the Persian enemy. But it was ultimately impossible for the Ethiopians to buy silk from the Indians, for the Persian merchants always established themselves at the harbours where the Indian ships first put in. Another advantage of the Persians was that as they were the next-door neighbours to Indians they used to buy up the entire cargoes before they reached the West.[2] Thus the Persians were able

[6] Procopius (Vol. VII. p. 297)—XXV 12-17.
[7] Ibid. XXV 12-22 ⟨Vol. VI. pp. 297-299⟩.
[8] Ibid. I. XX. 9-12 ⟨Vol. I. p. 193⟩.
[9] Bandyopadhyaya—Economic Life & Progress in Ant. Ind. pp. 238-9. Vide also Encyclopaedia Britannica XXV. p. 97.
[10] Procopius: I. XX 9-12 ⟨Vol. I. p. 193⟩.
[1] Ibid.
[2] Ibid.

to secure a close monopoly in the Indian silk trade and this was sorely felt in the Byzantine Empire, especially when there was war with Persia. Matters were a little eased by the peace concluded by A.D. 532, but in A. D. 540 war broke out again.

The fortunes of the silk trade of India are probably reflected in one contemporary inscription.[3] There it is stated that from the Lāta-Vishaya near the Narmadā region a guild of silk-weavers migrated into an inland country of Daśapura or Māndāsor in Western Mālwa. The migration must have taken place some decades before the building of the temple at Māndāsor in A.D. 436. If we recall the events in the contemporary West, it may be suggested that one of the chief causes of the migration to the inland country was the failure of the profitable silk trade with the West. It may well be that the grim days, in which the Roman Empire tottered under the blows of Alaric, were reflected in the fortunes of these silk weavers.

Probably many of the weavers found it expensive to have their products conveyed to the sea for export, and local demand was not sufficient to keep them all employed. As a result, many of the former silk-weavers had to abandon silk-weaving and were forced to take up other vocations, from astrology to soldiering. But their continued prosperity, despite the abandonment of their ancestral calling, shows the general prosperity of India at the time. The trade in silk between India and the West must have suffered considerably or perhaps almost disappeared when the Byzantines began to produce silk themselves. Justinian's negotiations with the Ethiopians were not his only attempt to break the Persian monopoly in silk trade. He made contact with certain monks who knew the secret of silk as a result of their travels in India and China. Justinian promised to reward them with large gifts if they helped silk cultivation in Rome. They then once more went to Serinda (a country above India[4]) and brought back some eggs of the silk-worm to Byzantium. They thus made possible, from that time, the production of silk in the land of the Romans.[5]

From the accounts of Cosmas we also know that India had regular maritime relations with Ethiopia. Emeralds were found in the mines of upper Egypt and were no doubt shipped from Adulē for the Indian markets. With the price they fetched, the Ethiopians invested in wares of great value for India.[6] Cosmas further states that the Ethiopian elephants had large tusks, which were exported by sea from Ethiopia

[3] The Māndāsor inscription of Kumaragupta I and Bandhuvarman—Fleet. pp. 81-84.
[4] Procopius, Vol. V, Index. p. 437:—Serinda is generally identified with China.
[5] Procopius:—VIII, XVII, 1-14, ⟨Vol. V. pp. 227-231⟩.
[6] Cosmas XI. p. 371.

even to India, Persia, the Homerite country and the Roman dominion.[7] His reference to the importation of ivory into India is most surprising. We must assume that the tusks of the African elephants were in demand by Indian ivory workers owing to their great size, which allowed them to be worked up into larger articles than could be made from the tusks of Indian elephants. Moreover, according to Cosmas, from Barbaria in Ethiopia many kinds of spices, frankincense, cassia, calamus and many other articles of merchandise used to come to the country of the Homerites, to Further India and to Persia.[8]

Thus India also had commercial relations with Arabia and Persia. The best horses came from Vanayu, which is identified by some with Arabia, though Cunningham places it somewhere in the north-west of India.[9] Moreover, Procopius mentions India's trade relations with Doubios, a district in Persarmenia[10] (that part of Armenia belonging to the Sassanian Kingdom).

In comparison with other periods of ancient India, the Gupta period, with internal peace and security throughout the whole of northern India, certainly helped the development of such a prosperous foreign trade. And the different parts of India, from their mutual dependence upon the particular local products, were more closely linked together economically. No doubt the westward drive of Samudragupta,[1] completed successfully by Chandragupta II, was largely inspired by the desire to occupy the coastal regions of Surashtra, which had grown rich from trade with the west. And the great care taken by Skandagupta to hold the same region securely[2] was probably partly due to the maritime advantages of the west and its commercial prosperity.

Owing to the decline of the Roman Empire and to the Persian rivalry with the Byzantine Empire, the volume of Indian trade was apparently less than in the first century A.D., when Pliny complains of the heavy drainage of Roman money for Indian merchandise. But from the records of Justinian and Procopius we may conjecture that the balance of trade in our period was still in favour of India. Long before our period, in the east, maritime relations were established between India and China. In the Gupta period, as we have seen, the trade between the two countries was somewhat increased. Much of

[7] Cosmas XI. p. 372.
[8] Ibid. II. p. 51.
[9] Geo. of Ind. p. 97.
[10] Procopius—II. XXV. 2-10 ⟨Vol. I. pp. 479-481⟩; also index, p. 568. The city of Doubios, eight days journey from Theodosiopolis (modern Erzerum), has now vanished (Pauly-Wissowa Real Encyclopadie, S.V.).
[1] Fleet. p. 11.
[2] Ibid. p. 52.

the Indian merchandise was apparently exchanged for Chinese silk and for other products of which we know very little in the present state of our knowledge. But we do not find any Chinese coins of our period in India, or vice versa. We may conclude that trade with China was mainly by barter and that the balance of trade was perhaps equal.

Trade relations with India produced far-reaching effects upon the life and the culture of South East Asia. Through the channel of trade, Indian culture flowed all over South East Asia and India's cultural relations with that region seem to have been mostly in one direction, which fact tempts many over-enthusiastic Indologists to claim the Malay Peninsula, Siam, Cambodia, Indo-China, Java, Sumatra, Bali, Borneo and Indonesia as the ancient colonies of India. But this is a very vague claim on their part, for at that time there is no evidence that India had any political influence in South East Asia. Whatever the relations between India and her South Eastern neighbours might be, there is no denying the fact that in the Gupta period India stood out as the very heart of Asia and maintained her position as one of the foremost maritime countries in the known world.

Chapter VII

LABOUR

I. Slave Labour :

Slavery existed as an important element in the economic life of all nations of antiquity.[1] So also, from the earliest times, slavery existed in India. In India, as elsewhere, slavery originated from the earliest laws of war.[2] But in the course of time, slavery gradually developed as a regular institution. The Arthaśāstra classifies the five kinds of slave as: (i) *dhvajāhṛita* (captured in battle), (ii) *ātmavikrayin* (who sells himself), (iii) *udaradāsa* (or *garbhadāsa,* one who is born to a *dāsī* from a slave), (iv) *āhitaka* (one enslaved for a debt or pledged); (v) *daṇḍapranīta* (one enslaved for a fine or court's decree).[3] But Manu[4] speaks of seven kinds of *dāsas,* viz., one captured in battle, one who becomes so for food (i.e. in scarcity or in a famine), one born in the house (i.e. of a female slave), one bought, one given (by his parents or relatives), one inherited (as part of the patrimony), one who becomes so for paying off a fine or by judicial decree.

With the advance of time and the crystallization of social institutions, slavery became more and more institutionalised, and its forms and varieties increased. Nārada among all the Smṛitikāras contains the most elaborate treatment of slavery. He mentions fifteen kinds of slavery.[5] In ancient India, as elsewhere, the captives (*dhvajāhṛita*) of war[6] were the slaves of the captor; and they were probably released from bondage after paying due ransom. Those slaves who survived their master, did not recover their freedom but were handed down to the legitimate heir along with other properties of the master.[7] The child born of a female slave in the house of a master becomes a slave to the same master. He is called *gṛihaja* or *udaradāsa*[8] in Nārada and Manu. As in ancient Greece and Rome, slaves could be purchased for money (*krīta*). Nārada[9] also recognises slavery by gift. There

[1] Encyclopaedia of Social Science, Vol. XIV. pp. 73-77.
[2] Mbh:—Virātaparva. 33. 60. p. 76 ⟨Roy's Ed.⟩.
[3] Arth. iii. 13—Sec. *Dāsakalpa.*
[4] Manu. VIII. p. 415.
[5] Nār. V. pp. 25-28.
[6] Nār. V. 27; Manu VIII. 415 (*dhvajāhṛita*).
[7] Nār. V. 26; Bṛi. XXVI. 2; Manu VIII. 415 (*Paitrika*).
[8] Nār. V. 26; Manu VIII. 415; Mṛichchha. VIII. p. 232-Ceṭa.
[9] Ibid.

are very few references to this kind of slave in our literature and law-books, but in the Muslim and the British period the king and the Indian princes used to give female slaves as a part of their daughters' dowries.

Nārada[10] also holds that a slave could be pledged or mortgaged. This state of mortgage continues till the debt is cleared. Of course the sale, gift, or mortgage are open only to the rightful owner of a slave.

According to Nārada[1] a man leaving a religious order is sentenced to slavery by the king, and such an apostate is never to be emancipated. Obviously this threat is an attempt to hold men to their proper order, and may not have been rigorously applied. It is hardly likely that such a law was ever applied to non-brahmanical ascetics, for the Buddhist monk was not bound by lifelong vows, and it is doubtful if any king would have attempted to enslave such a monk if he gave up his monastic life.

Another kind of slave accepted slavery for the sake of maintenance.[2] Nārada states that such slaves are to be released at once on giving up the claim to subsistence. Possibly their status did not very much differ from that of the labourer working for hire and paid with food. Sometimes a poor man might welcome slavery rather than starvation. Moreover, it is not unnatural that, owing to starvation and want during a general famine,[3] people become slaves for food.

A debtor might have to serve his creditor as a slave until the payment of the debt with interest.[4] Nārada also mentions a kind of voluntary enslavement.[5] The motives of such servitude might be manifold. It might be a form of penance, as we see in the case of the holy Lokemān in Bengali literature. We also suggest that such slavery might be undertaken to set another free, for instance a son might become a slave in order to liberate a father enslaved for debt. But slavery of these types is not elsewhere referred to, and we may assume that it was rare.

"Won through a wager" is another specimen of slavery in Nārada.[6] It immediately reminds us of Draupadī in the notorious dice contest in the Mahābhārata.[7] Lastly, Nārada[8] suggests three other

[10] Nār. V. 26.
[1] Ibid. 27, 35; Yāj. ii, 182.
[2] Nār. V. 28; Manu VIII. 415.
[3] Nār. V. 26.
[4] Ibid. 27. 33.
[5] Nār. V. 27; Yāj. ii. 182—(Vide commentary on it. p. 387).
[6] Nār. V. 27.
[7] Mbh: Sabhāparva. 64. 33, 39. p. 147 and 65.4. p. 149.
[8] Nār. V. 27-28.

modes of slavery: one enslaved on account of his connection with a female slave, who becomes a slave of the owner of the female slave; one enslaved for a stipulated period; and one self-sold. In the Mṛichchhakaṭika a defeated gambler wishes to sell himself for ten *suvarṇa*[9] in order to escape the persecution of his creditor. If such be the condition of slavery there was no caste of slaves.

But the rigidity of the institution did not mean that a slave was altogether without hope of freedom. Nārada states that a slave born at his master's house, one purchased, one received by gift, and one obtained by inheritance cannot be freed from slavery except by the favour of the master,[10] while one who sells himself is the worst kind of slave and can never become free, but his bondage is hereditary.[1] Nārada and Yājñavalkya[2] give a rule as applicable to all slaves, that when a slave saves a master from imminent danger to the latter's life, the slave becomes a free man. Moreover, Nārada adds that he gets a share in his former master's inheritance as a son.[3] A man who gives himself as a slave in order to be maintained during a famine is released from bondage, if he gives a pair of oxen, for it is not by labour alone that the value of the food consumed during a famine can be repaid.[4] Thus a man selling himself into slavery in time of famine could not obtain his freedom as easily as a man who became a voluntary slave in ordinary conditions. This law was certainly harsh in this respect to the men afflicted by famine. This provision of Nārada certainly does not reflect credit on the ancient Indian legal system and we must hope that it was not regularly applied by the benevolent Gupta Emperors. One pledged for debt is released when his master redeems him by discharging the debt. But if, however, he asks the pledgee to take him in lieu of payment, he becomes equal to a purchased slave. It is by paying his debt with interest that a debtor is released from slavery. One enslaved for a stipulated period recovers his freedom on the expiration of that period. Moreover, one who has come forward declaring, "I am thine", one made a prisoner in war and one gained through a wager, are released on giving a substitute whose capacity for work is equal to theirs. Again, one who has become a slave in order to get maintenance is released at once on giving up the said subsistence. This rule apparently was not intended to apply to those who voluntarily enslaved themselves in time of famine; in such cases

[9] Mṛichchha. II. pp. 58-59.
[10] Nār. V. 27-29.
[1] Ibid. V. 37.
[2] Yāj. ii. 182. ⟨Vide also comment on it. p. 386⟩.
[3] Nār. V. 30.
[4] Ibid. 31.

the payment of a pair of oxen was also demanded, as we have seen above. One enslaved on account of his having sexual relations with a female slave is released on parting with her. Moreover, those who are sold after having been captured by robbers, and those who are enslaved by forcible means, must be emancipated by the king, for their slavery is not legal.[5]

There are also definite procedures to release a slave from bondage. He who is pleased in his mind, and wishes to emancipate his own slave, shall take from the shoulder of his slave a jar filled with water and smash it. He then sprinkles water, grain and flowers on his head and declares him "a free man" thrice. At last, he dismisses him with his face turned towards the east.[6] Here the breaking of a water-pot which the slave is carrying on his shoulder is said to be indicative of the discontinuance of his service of carrying water and other obligations. Moreover, the sprinkling of water, grains and flowers on the head of a slave are most auspicious tokens of his freedom from bondage.

After the death of a father who has many slaves, his sons inherit them along with other immovable and movable properties. If there is a partition, the sons divide the slaves equally. But a single female or male slave shall be successively set to work at the house of each in turn, the period of the slave's stay at any one house being fixed according to its owner's share of the inheritance.[7]

From this we see that the slaves might be bought, sold, loaned or given away. But the masters had no right over the lives of their slaves and were not allowed to abandon them in old age. Earlier sources lay down rules of humane treatment. Thus, with surprising liberality, Āpastamba declares that a man may go short himself or stint his wife and children, but never his slave, who does his dirty work for him.[8] Some law-books limit the right of a master to give corporal punishment to his slave. A wife, a son, a slave, a servant, or a younger brother, may, when they do wrong, be beaten with a rope or a cane, but only on the back and not on the head. If a man beats them otherwise he should be punished as a thief.[9] But there are no such references in Nārada or in Bṛihaspati. Nārada, however, states that, for stealing a female slave, the thief shall in every case lose half his feet.[10]

But the slave has very few rights in law, for he is not his own

[5] Nār. V. 32-34, 36, 38.
[6] Nār. V. 42, 43.
[7] Bṛi. XXVI. 2-3.
[8] Āpast. ii. 4, 9, 11.
[9] Manu. VIII. 299-300.
[10] Nār. Appendix—Sec. on theft, 33.

master.[1] He is little better than his master's chattel. The master has the right to recover him, if he runs away, or gives himself to another master. He has also the right to pledge him or to give him to another man. Moreover, according to the law books of our period, a slave can have no property, for whatever he earns belongs to his master. The transactions of a slave are declared invalid, unless they have been authorised by his master. He cannot stand as a witness except in case of failure of better qualified witnesses. Moreover, his social status is such that nobody accepts his evidence.[2]

In the earlier period slaves might sometimes perform work of economic importance, such as agriculture.[3] But in our period we generally find them as domestic servants or personal attendants. Nārada enumerated the domestic work under two heads: pure and impure. The former is done by hired and other kinds of labour; the latter is done exclusively by slaves. Sweeping the gateway, the privy, the road, and the place for rubbish, shampooing the secret parts of the body, gathering and putting away the leavings of food, ordure, and urine, rubbing the master's limbs, when desired, are impure works and should be done by the slaves.[4] Moreover, the washing of the feet of her master after his return from outside is one of the duties of a maid servant.[5]

But the system of slavery was not as innocent as it would appear from the functions of a slave enumerated above. The master might let out the services of the slaves on hire[6] and thus make a profitable business out of him or her, since the slave had no right to earn and own property. Another evil feature was that female slaves were very often kept for sexual enjoyment; sometimes they were lent out for this purpose to others, their offspring generally being accepted as interest. A man could not forcibly enjoy a female slave without the authorization of the owner, but if he enjoyed her without such sanction, he had to pay mere two *paṇas* as a fine for a day.[7] In these cases it is very difficult to distinguish women slaves from prostitutes and concubines. In most cases, however, these slave women or maid-servants appear to have been used to serve in their master's house alone, and sometimes they had sons and daughters (i.e. who are home-

[1] Nār. I. 29; V. 26, 40, 41; Manu. VIII. 416.
[2] Manu. VIII. 70; Mṛichchha. X. pp. 307-310.
[3] Arth. II. 24. p. 115..
[4] Nār. V. 5-7.
[5] Mṛichchha. III. pp. 83-84.
[6] Nār. I. 107; V. 41..
[7] Ibid. VII. 11, 13 (Miscellaneous Laws).

born,[8]) of their master or others. Their children were considered very low in the social scale, for the child of a maidservant was used as a vulgar term of abuse.[9]

The good or bad treatment of the slaves almost entirely depended upon their masters. If the masters were kind, they were contented and happy with them; and they were much better than the destitute or impoverished freemen who had little means of subsistence. But if the masters were bad, the slaves were almost totally at the mercy of their whims, caprices and ill-will. References in the Mṛichchhakaṭika partly confirm and partly supplement the data given above. The fate of the slaves Sthāvaraka (also named as Ceṭa) and Madanikā shows how the treatment of the slaves depended upon the temperament of the individual owner.[10] For while Madanikā is regarded by her high-minded mistress as a friend and confidante, Sthāvaraka is beaten and put in fetters by his brutal master. Again, while Madanikā is released by her mistress to make possible her union with her lover, Sthāvaraka has to wait for his release until the disgrace of his master and the issue of an order by the new king.

Saletore wrongly describes the condition of slavery in the Gupta period by citing three examples. The Udayagiri cave irscription of Chandragupta II reads, "*vikram-āvakrayakrītā dāsya-nyagbhūta-pārthiv(ā)....*", which Fleet interprets as "bought by the purchase-money of (whose) prowess, (the earth), in which (all other) princes are humiliated by the slavery (imposed on them by him)...."[1] Considering the extravagant phrases in which the king's power is proclaimed, the slavery imposed on all other princes is obviously only a reference to the humiliation of being subjected, and has no connection with actual enslavement, as Saletore[2] believes. Moreover, in the Allahabad Pillar inscription of Samudragupta,[3] Harishena, who held a high position in the emperor's court, is styled as the slave at the feet of the emperor, out of extravagant compliment to him. Here, too, Saletore's[4] conclusion as to the state of slavery in India does not seem justified from the hyperbolical use of the term in these passages. Saletore further quotes a passage from Fa-hsien to prove his theory of the apparent non-existence of slavery in the reign of Chandragupta

[8] Ibid. V. 26.
[9] Śak. II. Soothsayer, p. 845. Mṛichchha. I. p. 34; VIII. p. 239.
[10] Mṛichchha. ii, iii, IV (Vasantasenā vs. Madnikā); VIII, X. (Śakāra vs. Sthāvaraka).
[1] Fleet. p. 35.
[2] Saletore's Gupta. p. 363.
[3] Fleet. pp. 9. L. 31.
[4] Saletore's Gupta. p. 363.

II. Fa-hsien states, "(In the Middle country) the people are numerous and happy. They are not to register their household or attend to any magistrates and their rules; only those who cultivate the royal land have to pay (a portion of) the grain from it. If they want to go, they go; if they want to stay, they stay".[5] Saletore takes only the last line of the passage and concludes that such a statement implies great freedom of movement of slaves and also suggests that there was no restriction of any kind whatever.[6]

Relying possibly on the statement of Megasthenes,[7] Dr. Bose[8] suggests that the lot of the Indian slaves was much better than their European brethren. We would rather take Megasthenes' statement to indicate the comparative smallness of India's slave population than its happiness, for which we have no very good data on which to base a comparison. The long period of the Carthaginian wars (264-241 B.C. and 218-201 B.C.) required a large number of able-bodied farmers in Italy. To meet the dearth of available native labourers for agriculture and other work, the captives of war were largely used for that purpose and were easily available in the markets. In 262 B.C., after the conquest of Acragas (Agrigentum) in Sicily, 25,000 prisoners were sold; after the capture of Tarentum in Italy in 209 B.C., 30,000 captives were sold. When the Roman State in the second century was advancing in Macedon, Greece and Asia Minor and extending its authority over Spain, the number of slaves brought into the market greatly increased. By the order of the Roman Senate in 167 B.C., 150,000 slaves were taken in the city of Epirus in one day. Towards the end of this century the island of Delos became a veritable slave market, when 10,000 men might change hands in a day. Thus, both the demand and supply of slaves grew. Moreover, under the misrule of the provinces by Rome from 100-67 B.C., large-scale kidnapping of able-bodied men for the western market was rampant.[9] We cannot proceed further into details, but it is clear that in ancient Europe there must have been millions of slaves, while in ancient India they were probably much fewer in number. Though we have no statistics of the number of slaves in ancient India, it is very clear from it that they were comparatively few. Thus in our sources there are no references to large numbers of slaves being owned by one individual, or to large scale slave markets or trade in slaves. It is possible that the economy of ancient India

[5] Legge. pp. 42-43.
[6] Saletore's Gupta. p. 363.
[7] McCrindle: Megasthenes, etc. "All the Indians are free and not one of them is a slave..." pp. 68-69.
[8] Bose's Economy—II. p. 423.
[9] Encyclo. of Soc. Science: XIV. p. 77.

was much less dependent upon slave labour than was the economy of the Roman Republic and Empire. As we shall see, India seems to have found sufficient hired and forced labour to support her economic life. Thus it was that the comparatively small class of Indian slaves escaped the notice of Megasthenes. But on this basis we cannot be certain that their condition was much better than that of contemporary European slaves. There is ample reference to the ill treatment of slaves in early Indian literature and law-books.

Slavery existed as a constant factor in the social and economic life of the ancient world throughout the entire period of ancient history. Its validity as a system of labour was never seriously questioned. No attempt to abolish it was made by any ancient government, nor did any ancient religious body, even the Christian Church, challenge the right of its believers to own slaves. Although Buddhism and Jainism had great humanizing influence in ancient Indian society for several centuries, they did not utter a single word in favour of the abolition of slavery. Even Aśoka, the great patron of Buddhism and supporter of *Ahimsā,* only asked his people to grant kind and proper treatment to slaves and hired servants.[10] Slavery was thus accepted as a part of the general labour system in the ancient world.

II. Hired Labour :

The position of hired labour in the ancient Indian social and rural economy is still largely in darkness. The contribution of the wage labourer towards the production of the wealth of the country was no doubt very great, but only a few facts about him may be gathered from the law-books, foreign accounts and from the incidental references in the literature of our period. By linking these references it may be inferred that living was far from easy for the labourer, that poverty and want prevailed side by side with opulence and plenty, and that the number of persons reduced to dire straits was by no means small.

Hired labourers were employed for tillage, field-watching harvesting, industry and commerce, tending and grazing cattle, etc; and we have already discussed them in these contexts.

Hired men also did household work[1] along with the slaves in the houses of the rich. Besides these there were probably many job-seekers without any fixed employment, whose services might be requisitioned for a day, fortnight, a month, two months, six months or

[10] R.E. IX: (Law of Piety) Select Ins. I. p. 29..
[1] Bṛi.. XV. 13. (Ref. cf. the domestic servants).

for a year. Their status was very much lower than that of the hired cultivators.[2]

The wage-earner was commonly paid in money; but he might also be paid in food or in both.[3] The earlier law-books refer to the amount of pay in cash, and lay down wages which were probably much below the subsistence level, and were probably supplemented by wages in kind. The Arthaśāstra fixes a *paṇa* and a quarter per mensem for agricultural labour and field-watchers, with provisions proportionate to the amount of work done.[4] But the rate of wages of Manu is definitely better. He lays down that one *paṇa* must be given daily as wages to the lowest, six to the highest, likewise clothing after every six months and one *droṇa* of grain every month.[5] In discussing these two figures, we cannot give any final comparison of the two wage-rates, for the *paṇa* seems to have been a coin of widely varying weight, which might be either of silver or copper. In our period Bṛihaspati and Nārada also make provisions relating to wages we examine below. The wage might be either in the form of a stipulated sum of money, or a share of the commodity produced by the labourer, such as grain, milk or domestic animals.[6] Thus, the labourer's rights were to some extent protected by law.

Nārada[7] declares that a master shall regularly pay wages to the servant hired by him, whether it be at the commencement, at the middle, or at the end of his work, just as he has agreed to do. This rule is applicable where the amount of the wages has been already fixed. But according to Nārada, where the amount of the wages has not been fixed, the servant of a trader, a herdsman, and an agricultural servant shall take one-tenth of the profit derived from the sale of merchandise, of the milk of cows and of the grain produced respectively. This unjust settlement is somewhat liberalised by Bṛihaspati. He entitles a servant of a cultivator to one-fifth of the crop plus food and clothing, or to one third of the crop only.[8] The position of the agricultural labourer paid in kind in this way seems often to have been hardly distinguishable from that of the share-cropper, who gave a portion of his crop to a landowner as rent. The Arthaśāstra, referring to an earlier period, lays down that half of the crop shall be given to the state, by the share-croppers on the Crown lands.[9] The same proportion is paid to the land holders

[2] Ibid. 10, 13.
[3] Ibid. XVI. 1-2.
[4] Arth. ii. 24.
[5] Manu. VII. 126.
[6] Bṛi. XV. 9; Nār. VI. 10.
[7] Nār. VI. 2, 3.
[8] Bṛi. XVI. 1-2.
[9] Arth. ii. 24.

by share-croppers in contemporary Bengal, though they are at present pressing for the right to retain two thirds of the crop. The grain share of one third allowed by Bṛihaspati compares unfavourably with the half share of modern times. But it must be remembered that the share laid down by Bṛihaspati applies to a servant, whose status was lower than that of a share-cropper, and who, by virtue of his subordination to a master, probably had greater economic security. In another respect Bṛihaspati's low rates may have been quite justifiable, for the cost of living, which always determines the rate of wages, was comparatively lower in the Gupta age. It must also be borne in mind that the soil in our period was probably less exhausted than it later became, and therefore output per acre was high. As we have seen from our inscriptions[10] relating to the perpetual maintenance of charitable halls, on a number of occasions three, ten or twelve *dīnāras* were deposited permanently, but their interest only was to be spent. Out of this sum a good number of people were apparently provided with temporary shelter and food.

Bṛihaspati and Nārada lay down several laws and regulations for the employment of hired labourers.[1] Servants, whether working for a share of grain or for pay, are declared to be of many sorts; some are engaged for comparatively high wages, some for moderate and others for low wages. The wages probably depended on the availability of the workers and their skill and ability. Moreover, a servant engaged for a day, fifteen days, a month, two months, six months or a year, must do the work which he promised to do and for which he has received the stipulated fee. Nārada also declares that if he fails to perform such work as he had promised to do, he shall be compelled to perform it, first paying him his wages. But if he does not perform it after having taken his wages, he must pay back twice the amount of his wages. Bṛihaspati is more severe. He states that when a servant does not perform his work after having received his wages though able to do work, he shall be compelled to pay twice as much as his wages as a fine to the king and shall restore the wages to his master.

When a servant, commissioned by his master, does any improper act, such as theft, for the benefit of his master, the latter shall be held responsible for it. Similarly, when a master does not pay wages for the labour stipulated after the work has been performed, he shall be compelled by the king to pay them and a proportionate fine besides. But it is doubtful whether the hired servants could always compel

[10] Fleet. pp. 36, 39-40.
[1] Nār. V. 22; VI. 5; Bṛi. XV. 9, 10; XVI. 5, 9, 11. Manu. VIII. 215 (8 *Kṛishnalas* fine and non-payment of wages).

their moneyed masters to pay the sum agreed upon, because they were very poor and of very low status in society and could not always avail themselves of the protection of the state. It is clear from the Mṛichchhakaṭika[2] and other sources that justice might often be corrupt and favour the wealthier or more powerful litigant. Moreover, the wage labourers seem to have had no guild organization and no leaders to fight for better pay and working conditions.

The hirelings were responsible for injury to their master's chattels or to the job undertaken. Their implements of work, and whatever else may have been entrusted to them for their work, they were told to employ with due care and not to neglect wantonly.[3]

The general picture of hired labour in Gupta times does not seem to be very happy, as is the case even today in India. Varāhamihira in his Bṛihatsaṃhitā refers to the numerous instances of general poverty and misery of the people from the pernicious combination and influence of the stars and planets.[4] He also refers to several instances of famine or other natural calamities. Certainly these predictions must have had some relationship to the socio-economic life of the people of the time; and so we cannot ignore them as mere fancies. Under such circumstances starvation-stricken people had to earn money by hard labour, by acts of torture and by lower acts. Most of them had to "pass their days in servile work"[5] and had to do "low services".[6] We can presume that their numbers were gradually increased by perpetual supply from the landless and the destitute.

Moreover, the position and security of the unskilled hand who worked from door to door on short-term service was perhaps in many respects worse than that of the slave. Paid servants are not always granted the facilities which slaves sometimes enjoy. The amenities of the master's home were not for them. In the early literature, however, we have references even to Brāhmaṇs and respectable house-holders taking to servile occupations under the pressure of poverty.[7] But the majority of hired labourers probably came from the socially degraded classes in whom "the profession of hired labourer was as much hereditary as the poverty connected with it".[8] Hired labourers did not form into a community with guilds or corporations, because they were divided into a number of avocations working in commerce, agriculture, and

[2] Mṛichchha. IX. pp. 260-291..
[3] Nār. VI. 4.
[4] Appendix I.
[5] Bṛihatjātakam XII. 15, p. 215 and Appendix I.
[6] Ibid. XVIII. 3, p. 263 and 264; Appendix I.
[7] Jāt. I. No. 3; No. 136; ii. No. 201.
[8] Fick: Die Social....etc. p. 304 ⟨Tr. Maitra⟩.

industry, usually in individual houses; they probably suffered perpetual discontent and poverty under the superstructure of material progress and prosperity.

III. Forced Labour :

Not to speak of the states of the ancient world, even the mediaeval states exacted a kind of forced labour from their citizens. The subjects of the Roman State were compelled to labour on public works. "Herodotus tells us of the use of forced labour by Persian rulers for transport and dispatch services (*angarevo*) and by Pharaoh for the construction of the Great Pyramid. Forced labour was from early times the chief means of maintaining the Egyptian irrigation canals. Most of the population of mediaeval Europe was subject to legally defined forced labour, for example, road work (*corvee*), transport service (*angaria*) and other feudal service obligations".[9] So in India, too, from the earliest times up to the early twentieth century, forced labour existed.

This labour (*vishṭi*) was generally unpaid, and generally the states of ancient India demanded such labour from their citizens from time to time for the performance of works of public utility. It was regarded as so essential in the time of Kauṭilya that the village and city accountants were instructed to keep an account of men engaged in forced labour.[10] We also find reference to forced labour in early inscriptions. In the Junāgarh Rock inscription of Rudradāman, it is said that the Sudarśana lake was constructed from his own treasury without burdening the people with new taxes and forced labour (*vishṭi*).[1] Thus, forced labour was considered to be a sort of burden on the people, even by the kings who exacted it, if they were broad-minded and benevolent.

In the Gupta period this form of labour became a source of state income, and was looked on as a sort of taxation paid by the people. So it finds frequent mention along with other taxes in the Gupta inscriptions. This shows that forced labour was probably more common than in the earlier period. In the Chammak Copper plate of Pravarasena II, the land was endowed entirely free from all obligations of forced labour.[2] The same exemption from forced-labour we find in Pravarasena's Siwani copper plate inscription.[3] But in the Raypur plate of Sudevarāja, it is specially mentioned that the inhabitants of

[9] Encyclo. of Soci. Sci. Vol, VI. p. 342.
[10] Arth. ii. 7.
[1] E.I. VIII. p. 36.
[2] Fleet. p. 235.
[3] Ibid. p. 243.

the donated village should be obedient to the command of the Brāhman donees Nāgavatsasvāmin and Bandhuvatsasvāmin.[4] It is thus quite apparent that these two donees could demand forced labour, whenever they were in need of it. Moreover, in the Gaṇesgaḍh Plate of Dhruvasena I,[5] the Pardi Pillar inscription of Dharasena[6] and the Surāt Plates of Vyāghrasena[7] the lands were granted with exemption of all taxes and forced labour. In the Riddhapur Plate,[8] the Vākāṭaka queen Prabhāvatīguptā donated lands to Brāmaṇs, their sons and grandsons entirely free from forced labour. But these references probably merely imply that the peasants' obligation to forced labour was transferred from the king to the Brāhman donee.

Other inscriptions specifically record the grants of lands along with the right of forced labour. The Palitānā Plates of Dharasena II state that the land was donated with the right to eventual forced labour.[9] In the Navalākhi Plate of Sīlāditya I of A.D. 605, it is stated that the land was granted with the right to forced labour as occasion for it occurs.[10] Moreover, in the Valabhi grant, Dhruvasena III in A.D. 653-4 had also given the donee the same kind of right to forced labour.[1]

Lastly, some inscriptions indirectly mention the existence of forced labour in the Gupta period. In the Khōh Plate, Mahārāja Jayanātha orders the Brāhmaṇs, cultivators and artisans of Dhavashaṇḍikā thus,—"you yourselves shall render to these persons the offering of the tribute of the customary duties, royalties, taxes, gold, etc., and shall be obedient to (their) commands".[2] Similar instructions have been given in the Gayā plate of Samudragupta.[3]

In course of discussing forced labour Saletore quotes a passage from the Udayagiri Cave inscriptions of Chandragupta II,[4] and states, "these labourers were purchased with money, for it refers to 'purchase money'. Such being the money value of forced labour it was considered a source of public revenue."[5] From it he means to say that forced labour was very mild in the Gupta period because the labourers

[4] Ibid. p. 196.
[5] E.I. III. p. 318.
[6] E.I. X. p. 51.
[7] E.I. XI. p. 219.
[8] J.A.S.B. (N.S.) 20. p. 53.
[9] E.I. XI. p. 80.
[10] E.I. XI. p. 174.
[1] E.I. I. p. 85.
[2] Fleet. p. 121; same instruction is given in his Karitalai Plate—Fleet. p. 117.
[3] Ibid. p. 254.
[4] Fleet. p. 35, L.2, Ref. "Vikram-āvakraya-krīta dāsya-nyagbhūta-pārthiv(ā) ....mānā-saṃraktā dharmma...."
[5] Saletore's Gupta. p. 362.

were sometimes paid for their services. But if we read the original passage carefully, this supposition seems not to be entirely true. The 'purchase money' in this context is metaphorically used to denote the power of the king, who has means enough to conquer or purchase the earth.

The king often demanded forced labour on some special occasion. The epigraphic evidences are further corroborated from a scene in the Mudrārākshasa. The carpenter Dāruvarman had furnished the main entrance of the palace with magnificent decoration on the occasion of Chandragupta's coronation. He has done it before receiving the instruction of Chāṇakya. At this Chāṇakya praised him highly, expressing gratification at his having decorated the royal mansion without being told and adding that he would have his reward for it before long.[6] This is a special kind of forced labour which we can see in the much later period, for at the time of the marriage of their sons and daughters and also other ceremonial occasions, the Rājās and the Mahārājas of British India enjoyed the benefit of this special kind of forced labour. On these occasions people from different vocations used to discharge their duties without taking any remuneration.

Most of the inscriptions referring to forced labour are from Madhya Pradesh and Kathiawar. So it is probable that the system of forced labour was specially prevalent in those regions and less rigidly enforced in the territory directly governed by the Guptas.

[6] Mudrā. II. pp. 56-58.

Chapter VIII

CORPORATE ECONOMIC LIFE

An important aspect of economic life during the Gupta period is the vigorous activity of the numerous guilds[1] and corporations. The guild-life led to much economic progress in ancient India, for the individual craftsmen could thus find scope to develop their skill and ingenuity, while the guild laws and regulations safeguarded their interests against internal or external danger.

The individual trader, undertaking long distance journeys and with insecure roads to traverse, had to face danger from wild animals, robbers or hostile tribes on the way; but a large group of merchants could easily protect their lives and commodities by their united efforts. Thus Bṛihaspati states that danger to one was to be regarded as danger to all and should be repelled by collective effort.[2] The caravan merchants could thus protect their lives and trade by organising themselves into a corporate body.

The tendency to organisation on a co-operative basis was inherent in the division of castes and the allocation of their duties. It was quite natural that men working in a particular type of craft should group together on the basis of their calling. Thus, the stratification of society on the basis of the caste system produced certain beneficial results in the field of industry and trade. The son of a craftsman was generally encouraged to take the profession of his father. The father could also hand down to his son his capital, credit and accumulated experience. But the hereditary occupation was not always rigid, as we see from the Mandasor inscription of Kumāragupta and Bandhuvarman.[3] Nārada advises the member of the Brāhmaṇ caste to take the profession of a Vaiśya in the hour of need.[4] But though there were a few exceptions, the hereditary nature of trades and occupations helped a great deal in the formation of guilds and corporations.

There were different kinds of guilds and corporations in our period. We come across a guild of architects in the Raghuvaṃśa.[5] In the Mudrārākshasa Chaṇakya asks, "O! guild president Chandanadāsa, are the interest and profit accruing from fair mercantile transactions going

[1] They closely resemble those of mediaeval Europe, Bose's Economy. p. 231.
[2] Bṛi. XVII. 6.
[3] Fleet. p. 79.
[4] Nār. I. 56, 61.
[5] Raghu XVI 38.

on well?"[6] On another occasion Chandanadāsa is referred to as the president of the guild of jewellers.[7] Speaking about agriculture, trade and different vocations, Varāhamihira on a number of occasions forecasts the prosperity and adversity of guilds and the guild presidents in his Bṛihatsaṃhitā.[8]

There are some epigraphic references to guilds and corporations. We have specific reference to oil-men[9] and silk-weavers.[10] A few other inscriptions inform us that certain amounts of money were deposited permanently for religious and beneficial purposes apparently with guilds, the names of which cannot be restored because of the inscriptions being broken.[1] In the Pāharpur inscription[2] and the Damodarpur C.P.[3] Nos. I, II and IV, the term *"nagara-śreṭhi"* is recorded.

K. N. Dikshit[4] translates it as the Mayor of the City Council. Sircar[5] and Saletore[6] interpret it as the guild president, whose equivalent in South India was Paṭṭanasvāmi, or Lord Mayor of the town. But in our opinion, as the term literally means "the merchant of the town", it may be quite reasonably taken to mean president of the merchant guild, who represents his guild in the administration of the town along with a few other representatives.

The clay seals discovered at Basārḥ (ancient Vaiśāli) throw further light upon the guild organisations of the period. The following legends, along with others, occur on a great number of them.

1. *Śreshṭhi—Sārthavāha—kulika—nigama.*
2. *Śreshṭhi—Kulika—nigama.*
3. *Śreshṭhi—nigama.*
4. *Kulika—nigama.*
5. *Prathama—Kulika.*

Dr. Bloch[7] interprets the term *"nigama"* as corporation or guild, *Śreshṭhin* as banker, *Sārthavāha* as trader and *Kulika* as merchant. Relying on his own interpretation he further suggests, "It looks as if during those days something like a modern chamber of commerce existed in upper India at some big trading centre, perhaps at Pāṭaliputra".[8]

[6] Mudrā I. p. 30.
[7] Ibid. I. pp. 18-20, 28.
[8] Bṛihat: IV. 13; X. 13; XXXII. 18; XXXIV. 19-20.
[9] Fleet. p. 68.
[10] Fleet. p. 79.
[1] The Gadhwar Ins. of Cha. II, pp. 37-38. L. 3-7 (Fleet). The two Gadhwar Ins. of Kum. I, 1st Ibid. p. 40, L. 3 & 2nd Ibid. p. 41.
[2] E.I. XX. p. 61. L. 1.
[3] E.I. XV. p. 130. L. 4; p. 133. L. 4; pp. 138-9. L. 3-4.
[4] E.I. XX. p. 63.
[5] Select Ins. I. p. 284; f.n. 6.
[6] Saletore's Gupta. p. 366.
[7] A.S.I. (A.R.) 1903-4. p. 104.
[8] A.S.I. (A.R.) 1903-4. p. 104.

Following him Mookerji[9] and Saletore[10] also hold almost the same opinion. But some of these interpretations are misleading, as we have seen elsewhere.[1] Only the important term *nigama* draws our special attention here. Professor D. R. Bhandarkar[2] suggests that there is no authority for Bloch's meaning. He holds that the word *nigama* should be taken in its ordinary sense, viz., "a township". We believe that he is right in his opinion, since the word is employed in literature in that sense[3] and unless some new discoveries definitely establish the meaning of the term, it is better to accept his suggestion.

Bloch's suggestion, that there exists "something like a modern chamber of commerce", seems to be far-fetched. The place, where the seals have been found, may have been either the record department of the local Government or the office of some corporate organisation,[4] for a large number of seals bear the name of the king, such as Chandragupta, Ghaṭotkachagupta, etc. along with numerous seals of the state officials, guilds, merchants, artisans etc.[5] However, there is no doubt that the seals were manufactured for certain purposes; and those of merchants (*Śreshṭhis*), caravan traders (*Sārthavāhas*), chief artisans (*Prathama-Kulikas*), ordinary artisans (*Kulikas*), and others undoubtedly indicate that they were used for business transactions.

The progressive development of corporate organisations in our period is fully evidenced by the numerous laws and regulations laid down by Nārada and Bṛihaspati, for there is no such detailed treatment in the earlier law books. These laws more or less cover the whole field of the origin, development and functions of the corporate life in our period.

In a new guild or corporation, before undertaking any work, mutual confidence among the members should be first ensured by means of monetary deposit, by a stipulation in writing and by the guarantee of the umpires. The guild constitution was apparently written in a document which was considered a valid agreement and pact of the code of guild—laws. Such an agreement was to be kept by all. He who failed in his agreement, though able to perform it, was to be punished by confiscation of his entire property and by banishment from the town.[6]

[9] Local Govt., p. 112; The Gupta Empire. p. 154.
[10] Saletore's Gupta. p. 367.
[1] Supra. pp. 122-123.
[2] Carmichael Lect. delivered in Cal. Uni. 1918. p. 170 F.N.I.
[3] P.T.S. Pāli-Eng. Dic. P. 190—"A small town; market town (Opposite to *janapada*).
[4] The Chamber of Commerce is quite a modern term and we are not at all sure whether this will suit our ancient Indian situation.
[5] A.S.I.A.R. 1903-4. pp. 107-120.
[6] Bri. XVII. 7. 13.

Besides their own professional work, guilds would undertake in their corporate capacity many other works of social utility. They are recorded as undertaking the construction of assembly houses, shelters provided with drinking water for travellers, temples, pools and gardens apparently for general use. They also extended their helping hand to poor people who could not afford to perform *Saṃskāras* (*Jajanakṛiyā*),[7] which generally imply the religious observances after the death of relatives, the birth of a child, the sacred-thread ceremony, the marriage ceremony etc. Since Bṛihaspati makes special reference to the philanthropic activities of the guilds, it would seem that these were a recognised part of their function and that the guild members were bound to participate in them, by gifts or otherwise. This type of guild activity is also recorded in our inscriptions. The Mandasor inscriptions of Kumāragupta I and Bandhuvarman[8] show how a guild of silk-weavers build a magnificent temple of the Sun in the year A.D. 437-8 and repaired it again in A.D. 473-4.

Apart from these activities these guilds and corporations used to function as banks. They received deposits of public money and paid regular interest on them. This undoubtedly shows that they also lent out money to others and thereby made some profit out of these transactions or they might invest their money in their joint business; otherwise it was quite impossible for them to pay a regular interest to the depositors. An earlier inscription of Nasik at the time of Nahapāna (dated A.D. 119-24[9]) informs us that Usavadāta, the son-in-law of the Śaka satrap Nahapāna, deposited permanently 3,000 *Kārshāpaṇas* with two weavers' guilds. 2,000 were given to one weavers' guild at the rate of one per cent per month, and 1,000 to another weavers' guild at $\frac{3}{4}$ per cent per month; which shows that the rate of interest varied between 12 and 9 per cent per annum. Similar instances of the guilds' functioning as banks are not wanting in our period. Dēvavishṇu, a Brāhmaṇ from Indrapura (modern Indore),[10] deposited permanently a certain amount of money for the perpetual maintenance of a lamp in the temple of the Sun with the guild of the oil-men of Indrapura. They apparently invested this sum in their own oil business or lent the money to others; and in return they paid interest which provided two *palas* of oil for the lamp, apparently daily.[1] They

[7] Bṛi. XVII. 11-12.
[8] Fleet. p. 79.
[9] Select Ins. I. p. 157; E.I. VIII. p. 82 No. 12. (Lüd—No. 1133).
[10] Fleet. p. 68.
[1] Although it is not specifically recorded in the inscription that the two *palas* of oil was given daily for the lamp, yet it was such a little amount that it must have been required daily—cf. Monier, Williams. S.V. p. 609.

undertook to do the same permanently, even if they removed their residence from this place.

These guild banks had such a reputation in the eyes of the people that even the Kings did not hesitate to deposit money with them. Chandragupta II permanently deposited 20 *dīnāras* in two instalments, apparently with a corporate body, and out of their interest endowed two almshouses.[2] His son and successor Kumāragupta[3] I on one occasion deposited 13 *dīnāras* and on another occasion 12 *dīnāras* apparently with one or two guilds and from this interest two almshouses were to be perpetually maintained.

Thus our inscriptions clearly show the banking functions of the guilds, of which people took full advantage in making permanent religious endowments. We have also seen that the deposits with the guilds were made under proper deeds of agreement stating the conditions under which they were held.

Moreover, these guilds must have possessed a coherent organisation and long standing reputation sufficient to induce the public to trust large sums of money to them. Their business transactions must have been characterised by honesty and fair dealing, otherwise men would scarcely have made perpetual endowments with them. The efficiency of their organisation is further witnessed from their longevity, expressed in the terms of their contract; and even the death or the change of members did not hamper their regular transactions of business and credit. What is still more surprising and significant, the guilds were apparently allowed perfect freedom of immigration as dictated by economic necessities.[4] But change of place did not effect in the least their internal cohesion, their credit or their liabilities to the depositors.

The sources of guild finance are also stated by Bṛihaspati. What is obtained or preserved by the members of a corporation, or earmarked for a particular purpose of the society or acquired through the King's

[2] Fleet. p. 38. L. 7 and 16.

[3] Fleet. p. 40. L. 6-7; p. 41. L. 7.

[4](a) The Indore C.P. of Skandagupta (Fleet. p. 68) records the gift of an endowment, out of the interest of which a lamp should be maintained perpetually in the temple of the Sun. This would be treated as the perpetual property of the guild of oil-men of which Jīvanta was the head, residing at the town of Indrapura as long as it would continue in complete unity even in moving away from this place.

(b) The Mandasor inscription (Fleet. p. 79) also records that a guild of silk-weavers migrated in a body from Lāṭa (near lower Narmada region) to the inland country of Mandasor. Some of the members of the guild had changed their vocation of weaving and had taken various profession from soldiering to astrology. Still they did not lose their internal cohesion and corporate spirit and they were still known as silk-weavers' guild.

favour, is common to all the members.[5] Thus, the source of their funds apparently comprised the contributions of individual members, the gift of the King, the profits earned on public works, the fines imposed on those who violated the laws of the guilds and profit from their banking functions.

The administrative machinery, which helped the guilds to deal with all these activities, is also clearly outlined by Nārada and Bṛihaspati. There was a chief or president, assisted by two, three or five executive officers. Only persons who were honest, acquainted with the Vedas and their duty, able, self-controlled, sprung from good families and skilled in every business, should be appointed as heads of an association. But hostile, dissolute, bashful, indolent, timid, avaricious, or very young persons must not be chosen for these affairs.[6] We have a few references of the president of the guild in our epigraphs. In Indrapura (modern Indore) Jīvanta[7] was the president of a guild of oil-men and Mātṛidāsa[8] was perhaps the president of a certain guild at Gadhwār, the name of which cannot be restored from the broken lines of the inscription.

Indeed these executives seem to have exercised considerable authority over their individual members. Thus, on a man who fell out with his corporation, or neglected his work a fine is ordained amounting to six *nishkas* to four *suvarṇa*. Banishment from the town is also laid down as the punishment for one who injures the common stock or breaks the mutual agreement.[9] Apparently these guilds enforced their own laws over their own people, but in difficult situations they might have to take the help of the State.

The guild officers could deal with wrong-doers with punishments ranging from mild censure, and rebuke, to expulsion.[10] Regarding punishment Nārada is explicit. According to him those who cause dissension among the members of an association shall undergo punishment of a specially severe kind, because they would prove extremely dangerous like an epidemic disease, if they were allowed to go free. In administering just punishment to mischiefmongers, the build officers were absolutely free from any censure by the State, for Bṛihaspati lays down that whatever is done by these officials, whether harsh or kind towards other people, in accordance with the prescribed regulations,

[5] Bṛi. XVII. 25.
[6] Bṛi. XVII. 8-10.
[7] Fleet. p. 70. L. 8.
[8] Fleet. pp. 37-38. "L. 3-4....Ka-Mātṛidāsa-pra (mukha)" We have also seal of Matṛidāsa from the Basarh excavation [A.S.I.A.R. 1903-4. p. 110].
[9] Bṛi. XVII. 14, 15.
[10] Bṛi. XVII. 17.

must be approved by the King, because they are declared to be the appointed managers of affairs. Nārada thus specifically states that the King should maintain the usages of the guilds and other corporations. Whatever be their laws, their duties, the rules regarding their attendance and the particular mode of livelihood prescribed for them, that the King should approve of.[1]

But the interference of the King into the affairs of the guild was not unknown. In certain specific cases he had the right to annul the decision of the guilds. If the heads of the association, actuated by hatred, try to injure a single member of the guild, the King must restrain them; and they must be punished, if they persist in their conduct.[2] It thus seems that any person punished by the guild officials could appeal to the King. It appears also that if their judgement was not in conformity with the guild-laws and usages, the King had the right to annul their decision. This law further suggests that while the independence of the association was fully recognised by the state, the security of the individual from the injustice of the guild officials was duly safeguarded.

The state intervened in the affairs of the guild in certain critical occasions. According to Bṛihaspati when a dispute arises between the chiefs and the associates, the King shall decide it, and shall bring them back to their duty. A trader's guild whose members conspire to cheat the King of the share due to him from their trade profits, shall be compelled to pay eight times as much and shall be punished, if they take to flight.[3] Nārada[4] also expressly states certain occasions of state intervention in the affairs of the guild. The King should prevent a combination of different associations possibly of a hostile nature, the arming of these corporations without sufficient cause, and conflict among them. He should also stop them from undertaking such actions as are either against his wishes or interests, or of criminal and immoral nature. Thus, the King could interfere with them only on certain specific occasions.

All these injunctions of Nārada and Bṛihaspati undoubtedly show that great importance was attached to guild life not only by the common people but also by the State. It is also seen from the above analysis that the economic life of the period found its best expression through the organisation of the guilds. But in the economic field there were also other forms of corporate activity which require our due attention here in order to have a complete picture of corporate life in our period

[1] Nār. X. 2, 3, 6; Bṛi. XVII. 18.
[2] Bṛi. XVII. 19.
[3] Bṛi. XVII. 20, 22.
[4] Nār. X. 4-7.

Brihaspati and Nārada have laid down numerous laws and regulations for the successful conduct of partnership[5] (*Saṃbhūya-samutthānaṃ*). Nārada[6] gives certain fundamental principles. Where traders or others carry on business jointly, it is called partnership. Where several partners are jointly carrying on business for the purpose of gain, the contribution of funds towards the common stock of the association forms the basis of their undertaking. Therefore, each should contribute his proper share. The loss, expenses and profit of each partner are either equal to those of the other partners, or exceed them or remain below them, according as his share is equal to theirs, or greater or less. Again, the stores, the food, the charges for tolls and the like, the loss, the freight and the expense of keeping valuables must be duly paid for by each of the several partners, in accordance with the terms of their agreements. Bṛihaspati[7] also upholds the same principle upon which the corporate activities in partnership depend.

As the success of the partnership largely depended upon the members who constituted the association, Bṛihaspati clearly stressed the necessity of the selection of partners. He thus states that trade or other occupations should not be carried on by prudent men jointly with incompetent or lazy persons, or with such as are afflicted by an illness, ill-fated or destitute people. Moreover, a man should carry on business jointly with persons of good parentage, clever, active, intelligent, familiar with coins, skilled in revenue and expenditure, honest and enterprising.[8]

Bṛihaspati further stresses the growth of corporate spirit which is the way of success in every form of partnership organisation.

Thus the relationship of the individual members with the whole group is clearly laid down both by Nārada and Brihaspati. Bṛihaspati[9] says that whatever property one partner may give or lend, is authorised by many, or whatever contract he may cause to be executed, all that is considered as having been done by all. But when a single partner acting without the assent of the other partners or against their express injunctions injures their joint property through his negligence, he must himself give a compensation to all his partners. Provision was also made to stop the fraudulent activities of the individual partner. When any partner is found to have practised deceit in a purchase or sale, he must be cleared by oath or ordeal. The partners themselves are pronounced to be arbitrators and witnesses for one another in doubtful

[5] Bṛi. XIII (Section); Nār. III. 1-9.
[6] Nār. III. 1-4.
[7] Bṛi. XIII. 4-5.
[8] Bṛi. XIII. 1, 3.
[9] Bṛi. XIII. 6, 7, 9, 22; Nār. III. 5.

cases; and when a fraudulent act has been discovered, unless a previous feud should exist between them they have the power to adjudicate on it.

Thus, the individual member was responsible to the corporate body for his neglect of duties and his misdeeds; and the joint decision of the other partners finally decided these cases. The wrong-doer was not liable to the jurisdiction of any other outside authority, though if he felt himself unjustly punished, he could appeal to the King.

On the other hand, his virtue was duly recognised by the same body. Nārada states that where the property of the partnership is in danger through fate, through a gang of robbers, or through the King, the tenth part of the property or goods shall belong to him who has preserved them through his own exertion.[10]

The corporate body also looked after the interest of the each of its members even after his death. Brihaspati[1] states that if any partner in trade happens to die through want of proper care, his goods must be shown and delivered to officers appointed by the King. After that when any one comes forward claiming that man's property as heir to the deceased partner, he has to prove his right over it by the evidence of other men, and only then he may take it. In these cases, however, the King shall take sixth, a ninth and a twelfth part respectively from the property of a Śudra, Vaiśya and Kshatriya, and a twentieth from the property of a Brāhmaṇ. But after the long lapse of three years, if no owner comes forward, the King shall appropriate that property. But the wealth of a Brāhman he shall bestow on another Brāhman.

The cultivation of the soil and various other arts and crafts were also carried on by workers on the basis of partnership. But partnership in those cases was based not only on the capital invested by each partner but also on the skill and technical knowledge which each brought to work. As the skill and knowledge varied from man to man, so the share of the profits would naturally be different. Brihaspati thus states that when goldsmiths, or other artisans working in silver, thread, wood, stone or leather, practise their craft jointly, they shall share the profits in due proportion according to the nature of their work. On the same principle, the headman among a number of workmen jointly building a house or temple, or digging a pool or making articles of leather, is entitled to a double share of the remuneration.[2]

The same rules were applicable even among thieves and freebooters, when they came to divide their spoil. Four shares shall be awarded

[10] Nār. III. 6 and Bṛi. XIII. 11.
[1] Bṛi. XIII. 14-17.
[2] Bṛi. XIII. 33-37.

Chapter IX

CURRENCY, EXCHANGE AND MONEY-LENDING

I. Currency, Exchange:

We have already seen that industry and trade were generally prosperous in the Gupta period, and that the balance of foreign trade was in favour of India. We are very fortunate in having a very large number of gold coins of the period together with a considerable quantity of silver and copper coins. So far Indologists have studied Gupta coins mainly for the sake of political history. But their value for the reconstruction of the economic life should not be ignored.

According to the definitions of modern economists currency must discharge certain useful functions. To quote a well-known couplet:[1]

"Money is a matter of functions four,
A medium, a measure, a standard, a store."

Thus one of the functions of money is that, it serves as a store of value, for which purpose gold, silver, copper, etc., which are selected as the suitable materials, are less perishable than any other commodity. They can also be easily stored without losing their metallic value.

As far as ancient India is concerned, the accepted mode of storing wealth, when banking[2] was very crude and undeveloped, was hoarding. As many as sixteen hoards of Gupta coins[3] have been so far discovered from different parts of the Empire. There may be other hoards of coins still undiscovered, while others may have been already discovered and melted down by the finders,[4] unnoticed by the Government agencies. Even the Board of Directors of the East India Company melted down some valuable coins of the Kalighat hoard "in a mercenary fit",[5] while about 285 coins of the Bayana hoard were melted down by the illiterate villagers.[6] We are, however, fortunate that the Bharatpur State authorities managed to get hold of the remainder of the hoard, comprising 1,821 gold coins. Although government and society have

[1] Sen and Das: "An Introduction to Economic Theory", p. 322.
[2] Guilds and corporations sometimes functioning as banks. Supra. pp. 158-160.
[3] Allan: pp. cxxiv-cxxxi and Altekar: pp. i-x.
[4] I have heard from my late grandmother that certain villagers became very rich from this kind of buried treasure. I have also seen old mounds in a village of Midnapore district in West-Bengal which show clear signs of having been excavated, presumably in search of buried treasure.
[5] Allan: pp. cxxvi.
[6] Altekar: p. ii and f.n. 2.

changed after the lapse of so many centuries, the metallic value of these coins has not been lost even today. The coins of this hoard are of the total value of about twelve lakhs of rupees in present Indian currency; the object of hoarding was certainly to meet future emergencies, such as famines, droughts, wars, etc. Thus, the Gupta coins fully satisfy the criterion of money as a store of wealth.

Another function of money is that it serves as a standard of value for the staple transactions of everyday life. In its turn the standard of value depends upon the uniform standard of weight which is quite essential in every currency system. Gupta coins meet this requirement.

The earliest Gupta coins follow the standard of their late Kushāṇa prototypes[7] and the weights of Samudragupta's coins agree well with the weights of the late Kushāṇa coins of the third century A.D., which generally vary from 118 to 123 grains. Though these weights vary between 4 to 6 grains, and though there appears to have been very little effort to strike the coins accurately,[8] there was very probably an average standard which may be defined as of 121 grains. According to Cunningham the earlier Gupta kings follow in their gold issues the Kushāṇa standard of 123 grains, of which about 107 grains are pure gold, for 64 coins of the Kushāṇa kings, Vima Kadphises, Kaṇishka, Huvishka, and the earlier issues of Vāsudeva give exactly the same average weight. But the later coins of Vāsudeva show a falling off of pure gold by nearly 10 grains. In fact, our own findings show that the Kushāṇa gold coins contained appreciably more gold than this.[9]

But towards the end of the reign of Skandagupta, the gold coins became much heavier, reaching an average of 144 to 146 grains, while the gold contained decreased to about 70 grains.[10] Thus according to Cunningham it may be taken as a serious debasement. On the other hand, B. P. Sinha[1] has shown that the Cunningham's view of serious debasement is incorrect, but certainly the coins of his successors were usually much poorer in quality than those of their predecessors. Some

[7] Cunningham's "Coins of the Mediaeval India", pp. 14-15.

[8] The weights of modern coins are very accurately adjusted by governments. But, as Altekar has pointed out, we cannot blame only the Guptas for their variation of weights in their coins. It was rather the common practice in ancient times. The Greek coins found in ancient India vary in their weights. Thus, the weights of the silver coins of Demetrius vary from 55 to 61 grains, when the standard weight of these coins was 67.2 grains. Coins issued by the Indo-Bactrian rulers vary greatly. Even the gold Roman *aurei* of Julius Caesar vary in weight from 120 to 125 grains. But after his death the weight of the *aureus* varies from 114 to 121 grains:—The Bayana Hoard, pp. cxx-cxxi.

[9] 'Coins of Mediaeval India', pp. 14-16; and vide Appendix III, where we correct Cunningham's figures.

[10] 'Coins of Medieaval India', pp. 15-16.

[1] Sinha's 'Decline of the Kingdom—etc.' p. 61. Also Appendix III.

coins of Narasiṃhagupta and Kumāragupta II (?III) contain as little as 54 grains of pure gold.

It can, however, be said that the earlier Gupta coins apparently followed the Kushāṇa weight-standard, and the later correspond to the *suvarṇa* standard of Manu, comprising 80 *rattis* or 144 grains.[2]

Although the later coins become heavier in weight than those of the early kings, the percentage of gold in the coins gradually declined, especially after the later part of the reign of Skandagupta.[3] This is probably due to the economic conditions which we have already discussed in our first chapter.

During the prosperous days of Samudragupta and Chandragupta II, the state might easily have raised the standard weight of its coins. But they did not do so appreciably, possibly in order to maintain a balance in the market which was established by the Kushāṇas. But during the bad days of the Guptas, Skandagupta and his successors, although they issued heavier coins, greatly adulterated them, no doubt on account of the economic stringency caused by the wars with the Hūṇas and others.[4] Still they continued the process of minting coins and tried to maintain a uniform standard throughout their individual reigns.

The large number of surviving gold coins, 2,106 (about 285 melted down) from the Bayana hoard, 200 from the Kalighat hoard, some from the Jessore hoard, 200 from the Allahabad hoard, 13 from the Hugli hoard, 25 from the Taṇḍā hoard, 40 from the Tekri Debra hoard and many of unknown provenance, undoubtedly shows that they were minted as a gold currency, and not as mere commemorative medals. Moreover, the existence of so many types with their numerous varieties undoubtedly supports our conjecture, and this may also indicate that they were probably minted in different parts of the Empire. The Kushāṇas and the Guptas issued gold coins. But after that gold suddenly disappeared from the currency system and was afterwards only occasionally issued by some North Indian Dynasties. We have already seen that gold coins had very high purchasing power at that time, and were not used in ordinary transactions. They were probably largely hoarded as precious metal and were melted down and used as jewellery for the richer sections of the society. It was perhaps, thus, thought unnecessary to mint gold coins in the later periods. Why then was there an abundance of gold coins in the Gupta period? We can

[2] Manu VIII. 134.

[3] Appendix III.

[4] Fleet. p. 52.

conjecture that Bihar gold mines[5] were properly worked during this period and, as in the early part of the Christian era, gold came from outside India as bullion or coin as one of the articles of import.[6] The prosperity of the period may have led to commercial transactions on a larger scale than was later the case. To meet the needs of the times the Kushāṇas and Guptas issued regular gold coinage. Such coinage was perhaps hoarded for long periods, and would change hands only occasionally. Thus it must have remained current in commerce long after the Gupta period. Kings of the less prosperous later period might thus well find it unnecessary to issue a regular gold coinage. Moreover, a good number of silver coins have survived from this period. So far as our present knowledge goes, the minting of silver coins was first started by the Guptas during the reign of Chandragupta II, when he extended his conquest to the west by overthrowing the Śaka Satraps of Ujjain towards the end of the fourth century A.D. They were at first struck for these regions and were modelled on the silver coins of the Western Satraps. Their weight and fabric are closely similar to those of the Satrapal coins.[7]

Chandragupta's son and successor, Kumāragupta I continued the minting of silver coins. But the great number and variety of his silver issues offers a striking contrast to the comparative scarcity of his father's silver coins.

They thus supply us with further proof that the latter can only have been struck for a brief period before the end of the reign of Chandragupta II and within a limited area.

Kumāragupta I minted two main types of silver coins, one for his western provinces and the other for the central provinces of the Gupta empire. We have five different classes with several varieties of silver coins of Kumāragupta I.[8]

The existence of a large series (class V)[9] of silver-plated coins of Kumāragupta I with a copper core offers an interesting problem. Smith[10] has dealt with this problem in detail and has concluded "that the copper coins of Kumāragupta and Skandagupta, which resemble in device and legend the silver coins of those kings, were for the most part a real copper coinage and not merely forgeries of the silver coinage. Some copper coins coated with silver were issued in accordance with the precedent set by Nahapāna and many other sovereigns, but these

[5] Supra pp. 99-100.
[6] Pliny's remarks—supra p. 135 f.n. 2 Periplus. pp. 36, 160.
[7] Allan pp. lxxxvi-lxxxvii.
[8] Allan—pp. xciii-xcvii.
[9] Ibid. pp. xcvi-xcvii.
[10] J.R.A.S. 1893, pp. 142-3.

should be regarded as a debased portion of the silver currency. It is not reasonable, I think, to suppose that all the numerous coins of Kumāragupta and Skandagupta were originally silver-coated." He has further explained, "In my view the silver-plated coins are a debased issue of the silver coinage probably struck during a period of financial pressure, and the coins which show no signs of plating are not imitations of the silver coinage. I regard them as genuine copper coinage....." This suggestion of Vincent Smith is, however, mostly in connection with the western variety of Kumāragupta I, known also as the Valabhi type, of which a good number of coins have been found. If this be the case, this issue might be due to the Huṇā menace, which is referred to in the Bhitari inscription of Skandagupta.[1] It is very unlikely that these coins are forged, since they exist in considerable quantity.

A distinction can also be made between a bonafide copper coinage of this type and similar silver-plated coins. It is possible, as Allan thinks, that "all the coins were originally silver-plated,—perhaps merely washed with silver,—and intended to pass as silver" currency. It is now difficult to suggest anything quite conclusively unless new materials are available on this subject. These coins have only been found around the site of ancient Valabhi, and their issue was probably limited to that area,[2] when it was cut off from the empire by the Hūṇa invasions.

Among the later Gupta emperors only Skandagupta and Budhagupta continued the silver coinage—similar coins of the peacock variety were also issued by the Hūṇas, the Maukharis and the Pushyabhūtis.[3]

Thus, from the analysis of numerous types and large numbers of silver coins it can be safely concluded that the silver coins were minted side by side with gold by Chandragupta II and his successors for the regular currency of their empire. During the reign of Chandragupta II silver coins were minted only for his newly conquered Śaka territories, in order to meet the local need; and from the time of his son and successor Kumāragupta I, silver coins were introduced in the central provinces of the Gupta empire.[4] His son and successor Skandagupta had two main classes of silver coins.[5] Budhagupta ruling about A.D. 475-95 also continued the silver currency.[6]

In addition to the gold and silver coins, we have copper coins in

[1] Fleet. p. 52.
[2] Allan, p. xcvii: cf. Roman coins of the second half of the third century A.D.
[3] Altekar—Vākāṭakas-Guptas. p. 281; also for the reference of the silver coins of Budhagupta—Smith.V.A.—J.R.A.S. (NS) 1889, pp. 134-5.
[4] Allan, p. xcv.
[5] Ibid. p. c.
[6] J.R.A.S. (N.S.) 1889. pp. 134-5.

the Gupta period. R. D. Banerji[7] has referred to two copper coins of Samudragupta purchased by a private collector. But unfortunately these coins are untraced. Moreover, six copper coins, found near Bhilsā, are attributed to Rāmagupta by P. L. Gupta.[8] But Altekar and A. K. Narain attribute only two of them to Rāmagupta.[9] However, Narain is not very definite about the identity of the problematic Rāmagupta of the Imperial Guptas. Majumdar suggests that he might be a local ruler by the name of Rāmagupta.[10] According to Mr. Gupta the type, fabric and metrology correspond exactly with the coins of Chandragupta II.

But we have a large number of copper coins from the reign of Chandragupta II.[1] Nine types are distinguished, and his copper coinage shows a greater originality in its types than the silver, and appears to owe little to any preceeding copper coinage.

But the copper coins of his son and successor Kumāragupta I are extremely rare. According to Allan and V. A. Smith, the only copper coin, that can be attributed to Kumāragupta I, is in the Bodleian Library.[2] This was collected in 1848 and nearly a century elapsed before a second specimen of a copper coin of Kumāragupta I was collected by Ajit Ghosh.[3]

But it is obvious that these two represent a definite issue of copper currency. There might have been other copper coins which are still undiscovered. Copper coins are not often hoarded owing to their cheapness, and they were probably melted down for other purposes, for copper was in great demand for copper pots, etc.[4] Moreover, copper coins are much more liable to corrosion than those of gold and silver.

Thus, side by side with gold and silver, copper coins were also used as a regular currency at least in the problematic reign of Rāmagupta, and in those of Chandragupta II and Kumāragupta I; and as it was a very useful medium for daily transactions the copper currency may be expected to have continued even after Kumāragupta I. Although we have no copper coins of the later Gupta kings, it may be the fact that the copper coins of Rāmagupta, Chandragupta II and Kumāragupta I were handed down from generation to generation, for

[7] The Age of the Imp. Guptas. p. 214.
[8] J.N.S.I. XII. Dec. 1950, Part ii. pp. 103-11.
[9] Ibid.
[10] Classical Age. p. 17, f.n.
[1] Allan, pp. lxxxvii-lxxxviii.
[2] Allan p. xcvii and Num. Chron. 1891, Pl. ii, No. 15. Smith J.R.A.S. (NS) 1889, pp. 142-3; J.R.A.S.B. III, 1937, p. 113.
[3] Num.Suppl. XLVII, pp. 113-16 (in J.R.A.S.B. III. 1937).
[4] E. Thomas: The Ant. Ind. Weights, p. 53 The copper coins may be melted down "for the construction of domestic utensils" by all classes.

it must be remembered that coinage circulated much more slowly than at the present day, and hence the life of a coin as currency was much longer.

The wide distribution of the 16 hoards[5] so far discovered in the different parts of the Gupta empire undoubtedly shows that these coins formed the regular currency system of the Gupta period. To strengthen our argument we may refer to Nārada and Bṛihaspati, who give lists of different denominations of currency as follows:

According to Nārada:[6]

4 *Kākaṇī* = 1 *māsha* or 1 *pala* (1 *paṇa*)

20 *māshas* or 20 *paṇas* = 1 *kārshāpaṇa* of silver

1 *kārshāpaṇa* = 1 *andikā*

4 *kārshāpaṇa* or 4 *andikā* = 1 *dhānaka*

12 *dhānaka* or 48 *kārshāpaṇas of silver* = 1 *suvarṇa* (*dīnāra*)

According to Bṛihaspati:[7]

1 *kārshika* or *kārshāpaṇa* copper = 1 *paṇa* of *copper*

or

1 *andikā*

4 *kārshāpaṇa* or *andikā* = 1 *dhānaka*

12 *dhānaka* (or 48 *kārshāpaṇa*) = 1 *suvarṇa* (*dīnāra*)

4 *suvarṇa* (*dīnāra*) = 1 *nishka*

(i) The Bayana hoard—from Bharatpur in Madhya Pradesh.
(ii) The Kalighat hoard—from Kalighat in Calcutta.
(iii) The Bharsar hoard—near Banaras in Uttar Pradesh.
(iv) The Jessore hoard—in Bengal.
(v) The Allahabad hoard—in Uttar Pradesh.
(vi) The Hugli hoard—in West Bengal.
(vii) The Hajipur hoard—in Bihar.
(viii) The Tekri Debra hoard—in Uttar Pradesh.
(ix) The Kasarva hoard—In Uttar Pradesh.
(x) The Mithathal hoard—in Punjab.
(xi) The Jaunpur hoard—in Uttar Pradesh.
(xii) The Gopalpur hoard— „ „
(xiii) The Jhusi hoard— „ „
(xiv) The Tāṇḍā hoard— „ „
(xv) The Kotwā hoard— „ „
(xvi) The Basti hoard— „ „

With the exception of the Bayana Hoard, for which see Prof. Altekar's monograph of that name, details of all these hoards may be found in Allan, Catalogue, pp. cxxiv-cxxxi.

[6] Nār: Appendix: 56-60 (Sec. on Punishment.)

[7] Bṛi. VIII. 9-10.

According to Manu:[8]

5 *kṛishnalas* = 1 *māsha*
16 *māshas* = 1 *suvarṇa*
4 *suvarṇa* = 1 *pala* or 1 *nishka*
10 *palas* (or *nishka*) = 1 *dharaṇa.*

We thus see that the money-tables of Nārada and Bṛihaspati are almost the same, with slight variation in names. We also note that they agree on the ratio between gold and silver. According to the Gupta currency system, one silver coin was about 58 grains and one *suvarṇa* or *dīnāra* about 123 or 124 grains (with some variation towards the end of this period). Thus both Bṛihaspati and Nārada agree that (58×48=) 2,784 grains of silver are equal to 124 grains of gold. By simple arithmetical calculation we see that 1 grain of gold is equal in value to $22\frac{7}{16}$ or about $22\frac{1}{2}$ grains of silver, which seems to us an exceptionally high ratio.

But from the Baigram copper plate[9] we have a quite different ratio, for 16 *rūpakas* are equal to 1 *dīnāra.* The later Smṛiti writer, Śukra, states that the value of gold is sixteen times that of silver and the value of silver is almost eighty times that of copper.[10] But in the Gupta period:—

16 × 58 = 928 grains of silver = 124 grains of gold. Therefore, 1 grain of gold = approximately 8 grains of silver.

If this be the case, the silver *kārshāpaṇa* of Nārada and Bṛihaspati is not the same as the *rūpaka* of the inscription, but is much smaller than the latter. Thus it can be conjectured that the tables of Nārada and Bṛihaspati hardly correspond to the actual weights and denominations of the Gupta coinage. Rapson also states that the "simple weight-systems given in the law books do not afford a satisfactory explanation of the weights of ancient Indian coins in general".[1]

In fact the tables given in the most of the Smṛitis except Śukra cannot be wholly related to any known system of Indian currency. It thus seems that the Smṛiti writers are not thinking in terms of coinage, but rather of goldsmith's weights. It is a well known fact that the names of many coins all over the world correspond to those

[8] Manu VIII. 134-135.

N.B.—Dīnāra is mentioned by Bṛi. and Nār. as synonymous with *suvarṇa,* but not by Manu; possibly the term was not known in Manu's time. But we see that the relation between the "*suvarṇa*" and "*nishka*" in Manu and Bṛihaspati are the same.

E.I. XXI. pp. 81-82.

Śuk. IV. ii—181-182.

Rapson's Andhra coins. p. clxxxi.

of weights, even when the relationship has completely altered (e.g. the English pound).

In our section on land sale[2] we have already seen that by spending only 2, 3 or 4 *dīnāras* one could purchase one *kulyavāpa* of land, which amounted to a large area. Moreover, by depositing 10 and 12 *dīnāras* benefactors expected to maintain an almshouse as long as the sun, the moon and the stars endured, out of the interest of the sum. On two occasions 25 *dīnāras* and 16 *dīnāras* were endowed permanently[3] for feeding *bhikshus* and lighting lamps in the temples. All these references undoubtedly show that the *dīnāras* had a very high purchasing power and were not likely to be used in small transactions. Gold, in fact, was a much more valuable metal than it later became.

Moreover, the purchasing power of silver coins was also quite high, for we know from the Baigram copper plate[4] that 16 silver pieces were equal to 1 piece of gold. So the silver coins were probably not suitable for day to day domestic transactions. The gold and silver coins were used for larger transactions such as the purchasing of land, making donations, etc. There must have been some cheaper metal for currency in order to facilitate the transactions in daily life. Copper currency evidently served this need. It will not be unnatural to conjecture that tribal and punch-marked coins, along with copper coins of the Kushāṇas and the Indo-Greeks, and the Greco-Roman coins supplemented the Gupta currency and satisfied the needs of the people in their everyday life. However, any scarcity of small coins or change that there may have been, did not create inconvenience to the people, for ordinary daily transactions were probably made by cowries.[5] But the cowries cannot have served as a state currency, for they were available in large quantity from the seas of India and state control over them was hardly possible.

It also seems certain that the barter system existed side by side with currency. Even in the field of foreign trade, which we have already discussed, barter was possibly widely prevalent, for, except the Greco-Roman coins from South India, we have no evidence of the presence of foreign coins of our period in India and vice versa. So it is very difficult to agree with Dr. Rhys Davids who holds that "the old system of traffic by barter had entirely passed away, never to return".[6]

[2] Appendix II.
[3] Supra. p. 159. Fleet. p. 29; and p. 260.
[4] E.I. XXI. pp. 81-82.
[5] Legge, p. 43: *Cowries* were very often used in the villages during the lifetime of my great-grandfather. I have seen many of them in the box treasured by my late grand-mother.
[6] Buddhist India. p. 100.

The numismatic history of the Guptas does not establish any absolutely conclusive proof as to the originator of the Gupta currency system. The founder of the dynasty, Śrīgupta or Gupta, and his son Ghaṭotkacha, are known only from the genealogical tables recorded in the inscriptions and from a single reference by I-Tsing. The son of Ghaṭotkacha, Chandragupta I seems to be the first great monarch of his line, for he first assumed the title of *Mahārājādhirāja* instead of the simple *Mahārāja* of his predecessors. This undoubtedly indicates that from his reign the Guptas came to the political forefront. Moreover, it is generally accepted that the Gupta era began from his time; and in the opinion of some Indologists, the gold currency was first introduced by him and was continued by his successors.

In the numismatic series of the Guptas, there is a particular type of coin which bears the effigies of Chandragupta I and his Lichchhavi queen Kumāradevī with their names on the obverse, and a goddess seated on a lion with the legend *Lichchhavayah* on the reverse. At first these coins were attributed to Chandragupta I. Thus, his marriage with Kumāradevī of the powerful Lichchhavi family is generally believed to have been an act of great political importance for the Guptas. It is also evident from the pride with which it is recorded by his successors in their epigraphs that this marriage marked an epoch in the fortunes of the Gupta family. Vincent Smith,[7] who first studied the Gupta coins systematically, believed that these coins were issued by Chandragupta I in their joint name. This opinion was in vogue until Allan refuted it on purely numismatic grounds and attributed the coins to Samudragupta. According to him Samudragupta issued these coins to commemorate the marriage which had such far-reaching consequences to the fortunes of his family. This opinion, based on strong numismatic evidence, is accepted by many scholars. But recently Altekar[8] has challenged the view of Allan and has tried to re-establish the old proposition of Vincent Smith.

There is no doubt that these coins commemorate the marriage of Chandragupta and Kumāradevī, but the point of dispute is with regard to the king who issued them. Although it is very natural to hold that a coin is the issue of the person or persons whose name is inscribed on it, according to Allan there are some difficulties in attributing the coins to Chandragupta I, though his name, along with those of his queen and his relations by marriage, is inscribed on them. He offers the following arguments:

[7] Cat. of the coins in the Indian Museum, Cal. Vol. I, pp. 95-100.
(b) J.R.A.S. (N.S.) 1889, pp. 63-64.
[8] Bayana Hoard, pp. xli-lii.

Samudragupta's standard type of coin, which is the commonest of his series, closely followed the later Kushāṇa coins on obverse and reverse. On the obverse the king is depicted in almost similar style to the king on the Kushāṇa coins. The only difference, apart from the legend, is that the Kushāṇa head-dress is replaced by a cap and the trident by the Garuḍa standard. The king's name is still written vertically as with the Kushāṇas; and this practice is also followed by Samudragupta's successors. The reverse type is the close imitation of the Ardochsho reverse of the Kushāṇa coins.

However, the Chandragupta-Kumāradevī coins have advance a little from the standard type by the introduction of the figure of the queen on the obverse and the replacement of the throne by a lion on the reverse. From an examination of the fabric of all types of Gupta coins, Allan is of the opinion that the standard type of Samudragupta is the earliest issue, for it has the closest affinity to the coins of the Kushāṇas. As far as we know, Chandragupta I did not issue any coin of the Standard type. Now if Chandragupta I had issued a new type of coin, it would be expected that his son, Samudragupta, should follow him instead of imitating the coins of the Kushāṇas. Moreover, Chandragupta I does not seem to have had any close contact with the Kushāṇas whose eastern coinage forms the prototype of Samudragupta's Standard type. Standard type could only have been issued after his close contact with the Kushāṇas and Śakas.[9]

Moreover, a close examination of the fabric of the coins brings out real affinities and similarities between the Standard and Archer types of coins of Samudragupta and the Chandragupta coins.

The earliest variety of the Lion-slayer type of Chandragupta II, son and successor of Samudragupta, had a goddess, seated on a lion and holding a cornucopiae. This closely copies the reverse of the Chandragupta I coins and this signifies that the former immediately followed the latter. This reverse design is not seen on any of the coins of Samudragupta; and it is unthinkable that a type which gained so much popularity afterwards should have been altogether ignored throughout his long reign. The continuity of the cornucopiae on the Lion-slayer coins of Chandragupta II further proves that they imitated the Chandragupta I coins, which seem to be the immediate predecessors of the Lion-slayer coins of Chandragupta II.

Moreover, Chandragupta I was a *Mahārājādhirāja* and ruled for a considerable time. It would not be expected that he should be satisfied to issue a joint coinage only throughout his reign. There is no other

[9] All. Pil. Ins.: Fleet. n. 11.

instance for such a joint coinage and "it is contrary to all numismatic laws for a series to open with such a remarkable development from its prototype".[10]

Finally, the right of issuing coins was never considered by the Hindu kings as a symbol of royal power. Some of the greatest kings such as the Pālas and the Senas, as far as we know, did not issue any regular coinage. Hence it implies no serious loss of royal prestige and prerogative, if Chandragupta I, the first *Mahārajādhirāja* of the Gupta family, did not issue any coin.

On these grounds Allan concludes that the Chandragupta coins cannot be attributed to Chandragupta I, but were issued by Samudragupta to commemorate his father's marriage and to record his descent from the powerful Lichchhavis. Moreover, the standard coins of Samudragupta were the earliest to be issued in the Gupta numismatic series. Hence, it is Samudragupta who seems to have started the Gupta gold coinage by striking the Standard coins on the Kushāṇa model.

But Altekar[1] tries to refute him by offering these arguments. In his opinion, the fact, that Chandragupta I was not familiar with Kushāṇa coins, is not a serious objection to the hypothesis that the Lichchhavi coins were issued by him. He cites the analogy of the so-called Puri Kushāṇa coins, which were close imitations of the Kushāṇa copper coins. These coins were the chief currency in Orissa down to the seventh century A.D. Thus a coin type, closely following Kushāṇa copper coins, is found to have circulated several centuries after the Kushāṇas and in a place where the true Kushāṇa coins are not known to have been current. We need not, therefore, place the beginning of Gupta currency in the time of Samudragupta merely on the ground that Chandragupta I did not come into contact with the Kushāṇas.

Altekar has sought to explain the comparative originality of the Chandragupta coins by the suggestion that the issue was necessitated by the political situation, and especially by the marriage, which was no doubt largely responsible for the glorious fortunes of the Guptas. He further holds that the proud Lichchhavis were anxious to maintain their own individuality and that Kumāradevī was a queen in her own right. The occasion hence demanded a joint coinage, and Chandragupta I met it by striking one. He also refers to the analogy of William III and Mary in British history, for during the lifetime of Mary only joint coins were issued. If due importance is attached to the contemporary political situation, it is not surprising that Chandragupta

[10] Allan. p. lxviii.
[1] Bayana Hoard, pp. xli-lii.

was content to have only a joint issue. He did not strike any other type, because such an issue might have struck at the very foundation of the new alliance which was of much advantage to the Guptas. Moreover, according to Altekar, there is no evidence that Chandragupta I had a long reign after the time when he assumed the title of *Mahārājādhirāja*. The absence of any other type may be explained in view of the above considerations and of his comparatively short reign after he began to issue coins.

In Altekar's opinion, the reverse type does not present such originality as Allan thinks; the goddess seated on a lion was not unknown to the Kushāṇa coins. The goddess Nana appears seated on a lion on a coin of Huvishka. A similar type also appears on a coin of the late Kushāṇa king Kaneshko. Chandragupta I might have taken the idea from them.

The seeming affinities between the Chandragupta coin and the Standard and Archer types of Samudragupta need not force us to take the former as contemporary with the latter. These similarities rest on some dubious features and their appearance or absence cannot be taken to be any serious ground for far-reaching conclusions.

Altekar further suggests that many of the exploits referred to in the coin legend, were actually achieved by Samudragupta during his father's reign. Hence, there is no reason to think on the basis of the coin legend that coins were issued by him only late in his reign. A comparison of the coin legends of such types as the Battle-axe, Archer and Aśvamedha, would show that each legend is progressively more boastful about his valour and achievements. But the legend on the Standard coins, being quite simple in comparison with the above, suggests that they were minted in the early years of his reign.

Moreover, Altekar is not inclined to believe that the Lion-slayer type of Chandragupta II, was an immediate successor of the Chandragupta I coins. The seated goddess on the lion on the obverse is not so popular in the subsequent reign as Allan thinks it to be, for it is confined only to the Lion-slayer coins of Chandragupta II and Kumāragupta I. The absence of the type on Samudragupta's coins, hence, need not be any ground for not attributing the Chandragupta coins to Chandragupta I.

Finally the most serious objection to the attribution of these coins to Samudragupta as commemorative medals is the absence of the name of the commemorator. Such an absence is the most convincing proof that they were not issued by him. The other commemorative medals, such as the Aśvamedha coins of Samudragupta and Kumāragupta I bear their *birudas*. Thus, the absence of either the name or the *biruda*

of Samudragupta on the Chandragupta coins seriously weakens their ascription to Samudragupta.

Much can be said in favour or against these two lines of argument. It appears that the question of fabric, raised by Allan, is a really serious and weighty consideration, and this is not very well met by Altekar. In reality, the Chandragupta coins show a distinct advance on Samudragupta's Standard coins, which certainly bear the closest resemblance to the Kushāṇa prototypes. Moreover, the Chandragupta coins are removed from this prototype not only in design and fabric but also in the plastic conception of the figures represented both on the obverse and the reverse. Thus, the advance in design, fabric and in plastic conception seems to suggest the identification of Allan. Nevertheless there are some weighty reasons in favour of attributing the coins to Chandragupta I. From the stand-point of purity the Chandragupta coins are closer to the coins of Vīma Kadphises, Kaṇishka and Huvishka than to the gold coins of Samudragupta.[2] Moreover, Altekar's argument that the coins bear no reference whatever to Samudragupta is a strong one. We would, thus, favour the view that they were minted by Chandragupta I himself, especially as their gold content is appreciably higher than that of any of the coins of Samudragupta.[3]

II. Money-lending:

Money-lending existed in India long before the Gupta period. Manu and Gautama include the income accruing from money-lending among the seven modes of acquiring wealth.[4] Usury is permitted to men of all classes in times of distress, though under ordinary circumstances neither a Brāhmaṇ nor a Kshatriya is allowed to have recourse to money-lending. Men of these classes may charge only nominal interest, even in time of distress.[5] Consequently, the profession of money-lending was normally restricted to the Vaiśyas and Śūdras alone.

In the Gupta period wealth acquired by money-lending is termed[6] "spotted-wealth" or "black wealth". In spite of this, Nārada and Bṛihaspati lay down numerous laws and regulations for lending money at interest. These laws expound the relations of lenders and borrowers on the basis of contract. They also emphasize the legal, moral and economic justification of interest.

[2] Appendix III.
[3] Ibid.
[4] Manu X. 115-117; Gaut X. 49.
[5] Manu I. 90; VIII. 410
[6] Nār. I. 46, 47.

In matters concerning money-lending, the state apparently had very little responsibility, and interfered only in extreme cases. The respect for free contracts probably kept back the State from interfering too often and too much in loan transactions. The absence of state control on money-lending must sometimes have caused untold misery to the borrowers, who were at the mercy of rapacious usurers charging very heavy rates of interest, as we see even in the British period.

Freedom of contract in monetary transactions and the liberty granted to individuals, guild banks and corporations to frame their own rules and regulations independently of the State were important features of the social economy of the day. Thus the rules current in money-lending circles and corporations were respected, and decisions in courts were based on the authoritative declarations of the guilds and corporations. Moreover, local customs were given due weight in fixing rates of interest, in making loan contracts, and in the recovery of debts. Bṛihaspati declares that it is by local custom that both the loan and its recovery should be regulated.[7] Nārada also states that in some countries a loan may grow until twice the amount of the principal has been reached. In other countries it may grow until it becomes three or four or eight times as large as the principal.[8] In the later period Śukra[9] is most positive in giving full authority to the money-lenders to frame their own rules.

It is also clear from the inscriptions that money was often deposited for profitable interest with individuals, guild banks or corporate bodies. They would then invest the money in their own business or lend it to merchants, traders, artisans, agriculturists and others. In time of need or famine the State[10] would give doles to its subjects, either gratuitously or on terms of repayment at harvest. There were also professional usurers, who earned their living by lending money to others.[1]

Various kinds of security were recognised by the law-givers in the contract of loans. Bṛihaspati states that a creditor should never lend money without having first secured a pledge of adequate value or a deposit, or a trustworthy security, nor without a bond written by the debtor himself.[2]

A pledge, technically known as *bandha,* is of four kinds, viz: movable or immovable, to be kept only or to be used, to be released

[7] Bṛi. XIII. 24; Nār. I. 105.
[8] Nār. I. 106..
[9] Suk. IV., V. 35-36.
[10] Kāman. V. 83-84 (indirect reference).
[1] Nār. I. 98.
[2] Bṛi. X. 5.

at any time, or limited as to time; and it should be stated in writing or stipulated orally before witness.[3]

A pledge must be preserved precisely in the same condition as at the time of its delivery; otherwise the creditor should have no interest. If a pledge for enjoyment has been given to the creditor, he must not take interest on the loan, for he derives its interest by its enjoyment. Of course, he must not give or sell this pledge before the stipulated period is elapsed. This presumably indicates that after the stipulated period the creditor can appropriate the pledge, if he likes to do so. When a pledge, though carefully kept, loses its value after a certain time, the debtor must either give another pledge or discharge the debt to the creditor. The reverse rule applies, when the pledge has been injured or destroyed owing to the negligence of the pledgee, provided that the loss was not caused by fate or the King.[4]

A pledge for custody must not be used, unless its specific use is mentioned clearly in the agreement. If the creditor uses a pledge which should not be used, he should not demand the interest due to him from his debtor. Moreover, he must make good the value of the pledge to the owner. Otherwise, he is considered as a thief of the pledge.[5]

It is stated that when a field or an immovable property has been enjoyed and more than the principal realised by it, the debtor shall recover the pledge automatically. This law specially applies when the debtor delivers a field to the creditor with the stipulation that the field shall only be enjoyed by the creditor for a certain period. When the principal has been realised together with the interest, he should restore the field to the debtor.[6]

According to Bṛihaspati, when the principal has been doubled—or the stipulated period expired in the case of a pledge delivered for a certain time only—the creditor becomes the owner of the pledge, after having waited for a fortnight. Moreover, when the amount of the debt has been doubled by the interest accruing on it and the debtor is either dead or no longer present, the creditor may take his chattel and sell it before witnesses. In fine, Bṛihaspati lays down that the pledgee can never be compelled to restore the pledge to the debtor, before the whole amount due to him has been paid, nor must the pledge be obtained from him by deceit.[7]

Another fruitful instrument in the hands of the creditor was surety.

[3] Ibid. X. 38-39; (*Bengali-Bandhaka*).
[4] Nār. I. 125, 126, 129, 130; Bṛi. X. 48.
[5] Ibid. 127.
[6] Bṛi. X. 67, 68.
[7] Bṛi. X. 42, 48, 51.

Both Bṛihaspati and Nārada[8] state that for four different purposes, namely, for appearance, for confidence, for payment and for delivering the assets of the debtor, sureties have been ordained by the sages. The first of these implies that the surety promises to produce the debtor, who is likely to abscond. The second vouches for the honesty of the debtor, declaring that he is a virtuous man, who will not deceive the creditor. The third promises to pay the debt himself, together with the interest, if the debtor should fail to pay it. The fourth agrees to deliver his movable property, such as household furniture, in the same case.

Bṛihaspati and Nārada further explain the duty and responsibility of the surety. If the debtor fail in his engagement to pay his debt, sureties of the first two types themselves, but not their sons, must pay the sum at the appointed time. Moreover, in the same situation, both the last two types of surety are also liable for the debt and in default of them their sons.[9]

The surety must not be excessively harassed. He should be made to pay the debt by instalments. He must not be pressed for payment, when the debtor is present. But when there is plurality of sureties, they should pay proportionately, according to the agreement. If they are bound severally, the payment shall be made by any of them as the creditor pleases. But when a surety, being harassed, pays a proved debt which he has vouched for, the debtor shall pay him twice as much after the lapse of a month and a half.[10]

All loans secured or unsecured had to be confirmed by means of a written document or agreement of debt which the creditor had to present to the debtor when asking for any payment. For every payment the creditor must always give the debtor a receipt and acquittance on clearance. If he does not give a receipt, although he has been asked for it, he shall lose the remainder of the sum due to him.[1]

There are various kinds of valid and invalid documents. When a loan recorded in a bond is not expressly claimed from a debtor who has means enough to discharge it and is at hand, the bond loses its validity, as the debt is presumed to have been paid by the debtor. A writing which has been neither seen nor read out for thirty years, should not be recognised as valid, even though the subscribing witness be living. A bond also ceases to be valid if the witness, creditor, debtor and the scribe be dead, unless its validity can be established by the

[8] Bṛi. X. 73, 74; Nār. I. 118.
[9] Bṛi. X. 78; almost identical Nār. I. 119.
[10] Bṛi. X. 82, 84; Nār. I. 120, 121.
[1] Bṛi. VI. 17; Nār. I. 114.

existence of a pledge. A document which is unknown and has never been heard of before does not obtain validity, when it is brought forward, even though the witness is living. Moreover, where even a single witness of a deed is infamous and reproached by the public voice, or where its writer is held in such estimation, it is called a false document. Lastly, a writing spoiled by fire, or executed long ago, or soiled with dirt, or intended for a very short period only, or containing a number of mutilated or effaced syllables, is reckoned as a false document.[2]

Nārada and Bṛihaspati also lay down laws on the validity and utility of documents. A man should show a document on every occasion to meetings of families, associations of traders, assemblies of cohabitants, and other bodies of persons, read it out to them, and remind them of it, in order to establish its validity. Again, if a document has been produced in due time, if the demand recorded in it has been repeatedly urged, and publicly proclaimed, it remains valid even after the death of the witness. Again, when a document has been transferred to another country, or burnt, badly written or stolen, a delay must be granted, in case it exists. But if it be no longer in existence, the evidence of those who have seen it decides the matter. Lastly, if a doubt should subsist as to whether a certain document is authentic or fabricated, its authenticity has to be established by examining the handwriting of the party, the name of the subscribing witnesses of the document, the marks, circumstantial evidence, and the probabilities of the case. Thus in all respects a written document is superior to witnesses. So, if a document is split or torn, stolen, effaced, lost or badly written, another document has to be executed.[3]

Evidently, however ,the authors of the Smṛitis of our period did not wholly trust the written word, and hence they desired that wherever possible it is to be confirmed by oral testimony. We may perhaps attribute this to the early brāhmaṇic objection to writing the Vedas and the general distrust of writing on the part of Brāhmaṇs. Megasthenes states that the Indians of his day had no written laws,[4] and the earlier literature on law does not emphasize documentary evidence as strongly as does that of our period. By this time, it is clear, the brāhmaṇic law-givers were forced to come to terms with a society wherein literacy was widespread, and where the use of writing for business purposes was taken for granted.

From the point of view of the lawgivers, although the document is superior to the witness, the witness is required in the credit system,

[2] Bṛi. VI. 31, 32, 47, 51; Nār. I. 138, 141.
[3] Bṛi. VI. 49; Nār. I. 140, 142, 143, 145, 146.
[4] MacCrindle,—Megas. and Arri. p. 69.

for both Nārada and Bṛihaspati give us an exhaustive list of witnesses in loan and other transactions.[5]

The normal rate of interest is laid down by Nārada and Bṛihaspati as 1¼ per cent per month, or 15 per cent per annum.[6] This is corroborated by earlier law givers[7] and probably applies to secured loans. But 2 per cent per mensem from men of the priestly class, or Brāhmaṇs, 3 per cent from men of the military class (Kshatriyas), 4 per cent from persons from the trading and industrial class (Vaiśyas), and 5 per cent from men of agricultural and labouring class (Śudras) are also declared to be legitimate rates of interest.[8] Thus, the general rate of interest on secured loans was 15 per cent per annum, while on unsecured loans Brāhmaṇs, Kshatriyas, Vaiśyas and Śudras paid per annum 24, 36, 48 and 60 per cent respectively. This is also evidenced by the earlier lawgivers.[9] That the rates of 24, 36, 48 and 60 per cent are applicable only in those cases where no security has been given seems the only reasonable explanation of this discrepancy.

Thus the higher castes give less interest on unsecured loans than the lower castes, no doubt because of their higher social and economic position and security. But the two upper classes were not the producing classes, while those who were actually engaged in the production of wealth were saddled with an excessive rate of interest, ranging from 48 and 60 per cent. This must have had some adverse effect on industry, trade and agriculture. Still, the maximum rates of interest, as laid down by Nārada and Bṛihaspati, do not seem to be exorbitant and extortionate, when, until recent years in many parts of India, agriculturists and villagers in general were paying interest at the rate of 75 to 150 per cent per annum,[10] with security. This was the usual rate of interest taken by the village money-lenders, while the rate of the Co-operative Credit societies of the rural areas was 11 to 12 per cent per month.

There are six kinds of interest[1] mentioned in legal sources. (i) *Kāyika*:[2] "bodily", so called, when, for instance, the milk of a pledged cow or animals are used by the creditor for his own purposes.

[5] Nār. I. 149-151, 158, 159, 229-239.
Bṛi. V. 4-14, 16, 17, I. 19.; 39, 40, 46.
[6] Nār. I. 99; Bṛi. X. 22; also in Arth. iii. XI.
[7] Manu VIII 140; Vasishṭha ii. 51; Gaut. XII. 29; Yāj. ii. 37.
[8] Nār. I. 100.
[9] Manu VIII. 142; Vishṇu VI 2; Yāj. ii. 37; Vas. ii. 48.
[10] The village moneylenders usually charge 1 to 2 annas per month per rupee which amounts to 75 to 150% per annum.
[1] Bṛi. X. 9.
[2] Bṛi. X. 10; also Jolly p. 321 f.n. 6 ⟨S.B.E. 33⟩.

(ii) *Kālika:* periodical,[3] due in every month. (iii) *Chakravṛiddhi:* compound[4] interest, or interest on interest. (iv) *Kāritā:* stipulated interest,[5] or it is an interest promised by the borrower, over and above the ordinary rate of interest to be paid always by the debtor himself, who has promised to do so in time of distress.[6] (v) *Śikhāvṛiddhi:* "hair-interest"[7] is so called, when interest is received every day. It is called hair-interest, because it grows every day, like hair, and does not cease growing except on the loss of the head, that is to say, on the payment of the principal. (vi) *Bhogalābha:*[8] interest by enjoyment, such as the use of a mortgaged house, or the produce of a field, etc.

Bṛihaspati advocates that hair-interest, bodily interest, and interest by enjoyment shall be taken by the creditor as long as the principal remains unpaid.[9]

Not only was money lent out, but other necessaries of life, were loaned; for instance, gold and other precious metals, base metals like lead and tin, clothes, grains, vegetables and fruits, pot-herbs, seeds, sugar cane, salt, oil, spirituous liquor, sugar, honey, cattle, wool and even slave-women were available on loan.[10] Most of these are agricultural commodities.

There are also cases where no interest can be taken. Interest on a short-term loan cannot be charged from a friend, unless there be an agreement for the purpose, but even without such an agreement, interest accrues on such loans after the lapse of half a year.[1] Nārada states that a loan made from friendship can never yield any interest, without being reclaimed by the creditor. If the debtor refuses to restore it on demand, it shall yield interest at the rate of five per cent per month.[2] Moreover, no interest is ordained by the law-givers on grass, wood, bricks, thread, substances from which spirits may be extracted, leaves, bones, leather, weapons, flowers and fruits.[3]

The earlier law-givers, Gautama and Manu, suggest that interest can accumulate only upto a sum equal to the principal, after which it ceases.[4] But the practice of usury was growing, and the later law-givers like Nārada and Bṛihaspati had to adjust their rules accordingly,

[3] Ibid.; Nār. I. 103.
[4] Bṛi. X. 10; Nār. I. 103.
[5] Bṛi. X. 10; Nār. I. 103.
[6] Bṛi. X. 12.
[7] Bṛi. X. 9, 13-14.
[8] Bṛi. X. 13-14.
[9] Bṛi. X. 16.
[10] Bṛi. X. 17-18; Nār. I. 107.
[1] Nār. I. 108.
[2] Nār. I. 109.
[3] Bṛi. X. 23.
[4] Gaut. XII. 30, 31; Manu VIII. 151.

and laid down more elastic terms. According to Nārada, in some countries a loan grows to twice the principal, in others 3, 4, or 8 times. Gold may grow to twice, grain to thrice, cloth to four times, liquids octuple; interest on women and cattle may grow upto their one issue. According to Bṛihaspati, gold grows to twice, clothes and base metals to thrice, grain, edible plants, cattle and wool four times, salt, oil and spirit to eight times.[5]

A debt unlimited by time is bequeathed to sons, grandsons, or lawful heirs or joint partners of debt. First of all, if the father is no longer alive, the debt must be paid by his sons. The father's debt must be paid before a man's own debt; and a debt contracted by the paternal grandfather must always be paid even before these two. Thus, the grandsons must pay the debt of their grandfather; but they can pay it without interest. It is inherited by three generations, but not by the fourth.[6]

Certain rules show the existence of joint money-lending enterprises. Thus, if a group of money-lenders lent their money jointly, it must be received by them jointly. If any such lender fails to join with his partners in demanding the repayment of the loans, he shall receive no interest. Of those who jointly lend gold, grain, liquids, and condiments, or the like, the gain shall be equal to their respective shares. Nārada also states that in partnership every partner is liable to business debts contracted by another partner, if they are contracted while the partners are alive and unseparated. But after their death the son of one is not bound to pay the debt of another.[7]

The moral obligation of repayment is shown by the severe punishments that await a defaulter in the future life. If a man dies without repaying his loan, he is born again in the house of his creditor as a slave, to repay his debt by his labour. This notion is even today prevalent among the older section of the villagers in India. Nārada further states that if an ascetic or an *Agnihotṛi* dies without having discharged his debt, the whole merit collected by his austerities and by his *Agnihotra* sacrifices belongs to his creditor.[8] The consideration of such future evils must have provided a very strong incentive to the debtor or his successors to pay off the debt.

If a debtor denies his debt, the creditor should first of all try to convince the debtor by citing the place, time, the amount of debt, the contents of the written documents and so forth and by means of

[5] Nār. I. 106-107; Vis. VI. 11-15; Bṛi. X. 17-18.
[6] Nār. I. 2-4; 103, Bṛi. X. 113, 114.
[7] Bṛi. XIII. 4, 25; Nār. I. 15.
[8] Nār. I. 7-9.

arguments. But when moral and other persuasions do not succeed, an ordeal must be administered by fire, water, proof of virtue and so forth, which may seem appropriate to the place, to the season, and to the strength of the debtor.[9]

There are certain laws to protect the interests of the debtors. When a debtor has been prevented by a reverse of fortune from paying the debt, he shall be made to discharge the debt gradually, according to his means. But if a wealthy debtor from malice refuses to pay his debt, the King shall compel him to pay it by forcible means, and shall take five per cent for himself.[10]

In difficult circumstances, however, the State assists the creditor to realise his money. In the law courts, if the debtor acknowledges the debt with his own mouth the King shall take from him ten per cent of the debt as a fine; and twice as much (twenty per cent) if he has been convicted after the denial of his debt.[1]

In such a highly religious society, a Brāhmaṇ creditor enjoys some special privileges. If a debt is due to a dead Brāhmaṇ creditor, whose issue is living, it must be paid to them. If there be no issue, the King must cause the debt to be paid to his *sapinda* kinsmen; on failure of kinsmen, it must be paid to his distant non-*sapinda* relatives. But where there are neither kinsmen, nor relatives, nor distant connections, it shall be paid to other Brāhmaṇs. On failure of such, the money must be cast into the waters.[2] Regarding this our lawgivers are silent about other castes.

For the realisation of debt Bṛihaspati and Nārada have given much latitude to the creditors. By gentle persuasion, fraud, force or legal proceedings a creditor can realise his money from his debtor. Bṛihaspati further elucidates this by saying that a creditor can take the debtor to his house and compel him to pay the amount by beating or other forcible means. Moreover, he may confine his wife, son or cattle, or he may compel the debtor to do all kinds of work at his house. But this method is not applicable to Brāhmaṇs, for a Brāhmaṇ must be made to pay gradually. Thus, if a creditor tries to recover his loan from the debtor by any means, the King must not stand in his way.[3]

The debtors were, thus, always at the mercy of their creditors. It would seem that they were also sometimes weak and defenceless, and had to bargain with shrewd money-lenders, as it is seen even today.

[9] Nār. I. 238, 239.
[10] Nār. I. 131, 132.
[1] Nār. I. 133.
[2] Nār. I. 112, 113.
[3] Bṛi. X. 90, 91, 94, 105; Nār. I. 122, 123.

Over and above this, every advantage was given to the money-lenders by the state and society. It is said that the original sum lent out can grow to thrice, four or even eight times, according to the usage of different countries; and only after that maximum has been reached the state should protect the borrowers from further exploitation by the money-lenders. Moreover, from the elaborate rules and regulations as laid down by Nārada and Bṛihaspati, it can be well presumed that there was more indebtedness in the society than in the earlier period, for the earlier Smṛitis, like Manu, Gautama, Vishṇu and others, do not treat this subject so elaborately; indebtedness may have developed as a natural corollary of prosperous trade, commerce and industry, for when trade is expanding debts are often more readily incurred than in a static economy.

CONCLUSION

The age of the Imperial Guptas is generally believed to be the Golden Age in Indian history. During this period India enjoyed the blessings of a strong but benevolent central government with undisturbed peace, wealth and prosperity for a considerable time. We have the valuable account of Fa-hsien to the effect that the people of the Middle Kingdom were "numerous and happy".[1] It is clear that certain parts of the kingdom, especially Magadha and its adjoining regions, progressed materially to a greater extent than did other less fortunate regions.

So great was the activity in the field of art, literature and science, that the Gupta age has sometimes been called the Hindu Renaissance and it bears many close affinities to England under the Tudors. In the field of literature Śūdraka, Viśākhadatta and other less well known poets are outshone by the brilliancy of Kālidāsa, who has been called by Rawlinson,[2] 'the Indian Shakespeare'. In the sciences of mathematics and astronomy, the Gupta age was adorned by the famous names of Āryabhaṭṭa and Varāhamihira.

Artists found liberal patrons in the enlightened Gupta monarchs, and some beautiful works of sculpture were produced. The Greek influence seen in the Gandhāra school has now been absorbed, and the sculptures are thoroughly Indian in spirit and technique. The cave paintings at Ajantā offer us lively gods and goddesses with rich and varied floral settings. Their grace and charm, gaiety and love, blended with the softness and elegance of a highly intellectual, refined and sophisticated society. This excellence of artistic design and taste is also observable in the rich varieties of gold coins issued by the wealthiest and mightiest Emperors of the age.

In the field of material progress and culture there was also life and spirit. Owing to the tightening up of agricultural economy all the lands were thoroughly organised with the help of departmental machinery, such as the record-department, etc., and the demand for more cultivable land was gradually felt. Jungles and marshes were reclaimed and gradually brought under the plough. To cover the mounting

[1] Legge, p. 42.
[2] Rawlinson's "History of the Indian People", p. 66.

expenses of the state taxation became heavy. The advanced condition of agriculture and horticulture is well brought out in the detailed descriptions of Varāhamihira, Kālidāsa and Amara. For the improvement of agriculture, the state and individual citizens undertook irrigational schemes; the cow became a sacred animal owing to its agricultural utility.

Pottery, metal work, jewellery, minting of coins, weaving, dyeing, stone-working and ivory-work made remarkable progress during this period. This industrial development brought beneficial results not only to society at large but also to the workers themselves. They were gradually recognised in the society and found a valued position in the local government of the day.

The internal trade seems to have been quite flourishing. Although as a result of Persian rivalry and barbarian invasions of the Roman Empire the trade with the West was somewhat restricted, nevertheless, India's maritime relations with Egypt, Syria, Persia, Arabia, Ceylon, Cambodia, Siam, Sumatra, the Malayan Archipelago and China were very close. The balance of trade was sometimes in India's favour. Through the channels of trade her cultural expansion into the very heart of south-eastern and eastern Asia formed one of the most brilliant episodes of Indian history. This great tradition of Indian influence, extending from Ceylon to Tongking, was of course not merely an endeavour to acquire material wealth. It was also aimed at religious ends. Vishṇuism, Śaivaism and Buddhism all sought to take root in new soil.

The prosperous industry and trade produced other beneficial results in the economic life of the country. To facilitate trade and other transactions the Gupta emperors minted gold, silver and copper coins; and for the first time in ancient India, we have such an elaborate system of coinage in different metals. Moreover, from the evidence of the elaborate regulations of Nārada and Bṛihaspati on financial loans we can assume that the Gupta economy was an expanding one and that there were many loans and investments.

Individual traders and craftsmen faced with difficulties formed themselves into corporate organisations. We have reference to corporations of farmers, artisans, money-lenders, traders; guilds of Brāhmans expert in Vedic rites are seen functioning in our period; and for the first time law-givers formulate elaborate rules on corporate life.

All this material prosperity required adequate labour. Slavery and forced labour existed side by side with hired labour. Mr. Dange lays

special blame on ancient Indian society for her system of slavery.[3] Probably he has not noticed that it existed with all its evil consequences in every ancient society in the world.

The Gupta Age was, no doubt, a period of efficient political administration, and political stability was firmly rooted. The stratification of society had also been finally fixed. So it is natural to conjecture that the fortunate few had their fortunes assured, and formed a distinct class. They comprised the king, princes, administrative officials, high priests, rich industrial and business magnates, etc. But the society as a whole,—that is, the poorer working classes,—may not be assumed to be equally prosperous, for there are numerous references in Varāhamihira to devastating famine, droughts, floods, crop-failures, and many such natural calamities, which are mentioned as possible occurrences in India. Moreover, Varāhamihira's references to poverty, commercial failure, family ruin, and so on are so numerous that we must admit that, even at this period, the economic condition of many people was very precarious.

For certain specific reasons we can trust Varāhamihira. Though by tradition a protegee of Vikramāditya, he was concerned with the production of working manuals for astrologers who carried on their craft all over India; the astrologers were patronised chiefly by merchants, artisans and the better class of peasants. His forecasts seem to us to bear a closer relation to the real situation of the times than the idealistic description of the courtly *Kāvya* of Kālidāsa.

The Gupta Age may be called a Golden Age in the same sense as the Elizabethan and Victorian. These were times of great material and cultural prosperity with great civic buildings, public undertakings, splendour, opulence and luxury—but only for a limited section of the community. Beneath the facade of outward splendour were the toiling masses on whose efforts the whole edifice depended. To warrant the name of Golden Age, as we in the twentieth century would now interpret it, far better conditions would be required for the whole of society, for the peasant as well as for the lord, and economic freedom and prosperity for both.

[3] "India from Primitive Communism to Slavery". pp. 118-128; pp. 158-173.

APPENDICES

APPENDIX I.

(Part I)

Evidence of Astrology in the economic life ot the people according to Varāhamihira :—

A. Forecasts relating to economic prosperity and failure, etc., according to the Bṛihatsaṃhitā.

I. Agriculture :—

A. *Forecasts of prosperity* (of various kinds of crops in different seasons, and of crops in general) :—
50 :—(III. 5; IV. 16; V. 20, 22, 79, 85, 96; VII. 4, 14; VIII. 8, 9, 12, 13, 30, 36, 47, 50; IX. 20, 42, 43; XVIII. 2, 3, XIX. 4-6; 7-9, 10-12, 13-14, 16-18; XXII. 5; 7-8; XXIV. 24, 33, 36; XXV. 2, 5; XXVI. 13, 15; XXVII. 1, 6, 8; XXIX. 2, 3, 4, 5; XL. 2, 3, 4, 5, 6, 7; XLV. 4-6).

B. *Forecasts of bad harvests* in general or in different seasons, and of failure of trees, plants, etc. (owing to insects, wild beasts, birds, mice, excessive rain, etc.) :—
52 :—(III. 16, 29; IV. 5, 23; V. 21, 24, 27, 34, 38, 39, 52, 54, 61, 75, 76, 78, 90, 92; VIII. 4, 10, 11, 16, 19, 40; IX. 14, 26, 35, 40; X. 5-6, 11, 13, 18; XIII. 8; XVII. 14, 15, 17, 18-19; XIX. 1, 7-9, 19-21; XXIV. 23, 33; XXXI. 1; XXXII. 10; XXXIV. 12; XXXV. 5; XXXIX. 4; XL. 5, 8, 10; XLVI. 42; XLVII. 16).

II. Animal Husbandry, etc :—

A. *Forecasts of prosperity* connected with cows, horses, elephants, sheep, dogs, goats, acquatic animals, birds and their products (also including certain animals which are very auspicious for the whole flock and brings prosperity) :—
24 :—(V. 20; IX. 20; XII. 16; XVIII. 5; XIX. 4-6, 13-15; XXXII. 29; XL. 6; XLV. 4-6, 7; LI. 19; LXI. 14, 15, 17, 18; LXII. 1, 2; LXIII. 1; LXV. 3, 4, 5, 7, 8; LXV. 7).

B. *Forecasts of bad conditions, etc.* (due to diseases, want of food, etc.) :—
42 :—(IV. 5, 11, 14; V. 30-31, 33, 36-37, 41, 55, 78; VII. 4, 6; VIII. 3, 42; IX. 30-31, 33, 40, 42, 43; X. 3, 7-8, 20; XII. 19; XVII. 18-19, 23, 24, 25, 26; XIX. 2; XXX. 13-14; XXXI. 4; XXXIII. 4, 5; XXXIX. 2, 5; XLVI. 27, 53; XLVII. 16; LIII. 60; LXI. 6, 7, 9; LXXIX. 31).

III. Industry and Industrial workers :—

A. *Forecasts of prosperity* :—

Artisans in general :—	*4* :—(V. 29; XXXI. 3-4; XXXIII. 19).
Carpenters :—	*2* :—(XLIII. 19, 21).
Oil-millers :—	*2* :—(X. 5-6).

B. *Forecasts of bad times, etc.* :—

Artisans in general :—	*2* :—(XXXI. 3-4; XXXIII. 19).
Carpenters :—	*1* :—(XLIII. 22).
Smiths :—	*6* :—(V. 35, 53; VI. 1; VIII. 3; X. 4; XVII. 13).
Distillers :—	*1* :—(X. 17).

IV. Industrial products, etc. :—

A. *Abundance* :—

Minerals (generally) :—	*3* :—(XIX. 4-6; 10-12; 16-18).
Gold :—	*1* :—(XLV. 4-6).

APPENDIX I—*contd.*

B. *Shortage*:—
- Gold:— *1*:—(X. 17).
- Salt:— *1*:—(X. 7-8).
- Oil:— *1*:—(V. 60).
- Sugar:— *1*:—(X. 7-8).
- Ghee: *1*:—(V. 60).
- Honey:— *1*:—(V. 60).
- Acquatic products in general:— *4*:—(V. 42; VII. 6; X. 7-8; XVII. 17).

V. Trade and Commerce and Traders:—

A. *Prosperity*:—
- (i) Sellers of donkeys, camels and horses get double the prime cost:— *1*:—(XLII. 7).
- (ii) Sellers of iron wares get double the prime cost:— *1*:—(XLII. 11).
- (iii) Sellers of corn, woollen cloth, jewels, flowers, cowries, saffron, conch sells, coral, pearls, get double the prime cost:— *4*:—(XLII. 7, 8, 10, 11).
- (iv) Merchants are profited by selling corn, roots, fruits, honey, ghee, oil, gold, silver, weapons, pearls, bark, skins, etc.:— *5*:—(XLII. 3, 4, 5, 6, 12).
- (v) Fair business:— *1*:—(XIX. 10-12).

B. *Hardship and failure*:—
- (i) Damage of merchandise:— *1*:—(VII. 6).
- (ii) Guild:— *2*:—(X. 13; XXXIV. 19-20).
- (iii) Guild chiefs:— *3*:—(IV. 13; XVII. 24; XXXII. 18).
- (iv) Head merchants and merchants in general:— *14*:—(V. 21, 29, 39-40, 41; IX. 30-31; X. 5-6, 7-8, 17; XVII. 26; XXXI. 4; XXXII. 10, 11; XXXIII. 25; XXXIX. 2).
- (v) Boatmen:— *2*:—(IV. 8; VII. 6).
- (vi) Those who got their living by water:— *1*:—(V. 42).
- (vii) Sellers of liquids:— *1*:—(X. 7-8).

C. *Market and Prices*:—
- (i) *High, (generally speaking)*:—
  - (a) rising prices:— *3*:—(XVII. 25; XXIV. 33; XLII. 14).
  - (b) double prices (generally):— *1*:—(VIII. 5).
  - (c) fruits, roots, perfumes, ghee, honey, oil, various gems, etc., yield profit equal to double the prime cost:— *2*:—(XLII. 5, 9)

APPENDIX I—*contd.*

(d) other essential commodities:—	*1*:—(VII. 4).
(ii) *Fair (generally speaking)*:—	*1*:—(VIII. 6).
Grains:—	*1*:—(V. 30-31).
(iii) *Low (generally speaking)*:—	*1*:—(VI. 10).
(a) falling prices (in general):—	*1*:—(XXIV. 23).
(b) corn:—	*3*:—(VII. 1; XL. 13, 14).

VI. Humble Employments and Occupations:—

A. *Prosperous*:—	
(i) Cultivators:—	*1*:—(VIII. 52).
(ii) Servants:—	*1*:—(IX. 21).
(iii) Magicians:—	*1*:—(XIX. 10-12).
(iv) Jugglers:—	*1*:—(XIX. 10-12).
(v) Singers:—	*1*:—(XIX. 10-12).
(vi) Soldiers:—	*1*:—(XIX. 10-12).
(vii) Perfumers:—	*1*:—(XIX. 10-12).
B. *Bad*:—	
(i) Cultivators:—	*7*:—(IV. 9; V. 29, 34; XXXI. 4; XXXIII. 9, 21; XXXIV. 12).
(ii) Cow-keepers:—	*3*:—(V. 36-37; IX. 13; XXXIII. 22).
(iii) Horse-keepers:—	*1*:—(IX. 35).
(iv) Shepherds:—	*1*:—(IX. 15).
(v) Elephant catchers:—	*1*:—(X. 9).
(vi) Bleachers:—	*2*:—(X. 5-6; 9).
(vii) Distillers:—	*1*:—(IX. 34).
(viii) Painters:—	*2*:—(IX. 30-31; X. 10).
(ix) Diggers of wells:—	*2*:—(IX. 30-31; X. 10).
(x) Garland makers:—	*1*:—(X. 9).
(xi) Messengers:—	*1*:—(IX. 30-31).
(xii) Servants:—	*1*:—(V. 34).
(xiii) Porters:—	*2*:—(V. 42; X. 9).
(xiv) Soldiers:—	*3*:—(IV. 27; V. 41; XVII. 17).
(xv) Physicians:—	*10*:—(V. 41, 80; VII. 6; IX. 32, 43; X. 3, 9, 15-16, 17; XXXII. 11).
(xvi) Magicians:—	*1*:—(X. 12).
(xvii) Mimics:—	*1*:—(X. 10).
(xviii) Tailors:—	*1*:—(X. 9).
(xix) Grooms:—	*1*:—(X. 3).
(xx) Actors:—	*1*:—(IX. 43).
(xxi) Singers and dancers:—	*2*:—(X. 3; XXXII. 11).

VII. Bad Livelihood:—

A. *Prosperous*:—	
Thieves:—	*1*:—(VIII. 52).
B. *Bad*:—	
(i) Thieves:—	*7*:—(X. 5-6, 9; XVII. 16; XXXI. 4; XXXIII. 19; XXXV. 3; XXXIX. 3).
(ii) Robbers:—	*2*:—(V. 42; LIII. 81).
(iii) Gamblers:—	*1*:—(X. 5-6).
(iv) Prostitutes	*1*:—(X. 9).

APPENDIX I—*contd.*

VIII. General Condition of the People:—

A. *Prosperity and happiness*

(in general) :— *36*:—(IV. 30, 32; V. 44, 45, 47, 87, 98; VI. 13; VII. 14; VIII. 5, 6, 18, 32, 34, 36, 42, 53; IX. 8, 45; X. 21; XI. 8, 14; XII. 20; XIII. 9; XVIII. 1, 3, 4; XIX. 16-18; XXIV. 20; XXX. 10, 15; XXXII. 29; XLIII. 9-10; XLVII. 5, 17; LX. 4).

(i) Abundance of food, etc.:— *29*:—(IV. 9, 11, 18, 19, 20, 26; V. 53, 55, 75, 78, 83; VI. 4; VIII. 14, 15, 34; IX. 8, 10, 16; XI. 14, 38, 43, 46, 49; XII. 20; XVIII. 4; XXIV. 20; XXXII. 29; XXXIV. 4; XLIII. 9-10).

(ii) Safety:— *13*:—(IV. 11, 19; V. 22, 44, 53, 55, 57, 87; VII. 14; VIII. 9, 11, 14, 15).

(iii) Good rain:— *8*:—(IV. 11; V. 22, 44, 45; VII. 14; VIII. 6; XXIV. 29; XXXII. 29).

B. *Bad* (in general) :— *27*:—(III. 18, 22, 26, 37, 38-39; V. 77; IX. 25; XI. 15, 29; XVII. 16; XXIV. 28; XXVII. 4; XXXI. 1; XXXIII. 22, 23, 26-28, 29; XLIII. 64; XLV. 7; XLVI. 43; XLVII. 10, 12, 14, 27; LVIII. 55; LX. 6; LXX-VIII. 28).

(i) Decline of population:— *4*:—(IV. 32; V. 28, 41; XI. 39).

(ii) Scarcity of food, etc:— *5*:—(IV. 14, 20, 27; V. 61; XXIV. 30).

(iii) Suffering at the hands of their own king:— *2*:—(III. 15; V. 44).

(iv) Danger from robbers and thieves:— *20*:—(III. 14, 17, 22; IV. 27, 29; V. 44, 52, 60, 61, 94; VI. 5; VIII. 7, 48; IX. 14, 18, 41; XIX. 7-9; 19-21; XXII. 3; XXXVII. 2).

(v) Invasion and war:— *14*:—(III. 6, 15, 22; IV. 29; VI. 5; VII. 3, 7; VIII. 3, 42; 51; X. 19; XXXIII. 12; XXXV. 4; XLVI. 27).

(vi) Cattle and goods are plundered:— *1*:—(XIX. 19-21).

(vii) Want of safety;— *8*:—(IV. 27; V. 21, 61; VI. 4; VII. 16; IX. 23; XXXIII. 12; LIII. 60).

viii) Danger from wild animals:— *1*:—(VI. 3).

APPENDIX I—*contd.*

IX. Natural Calamities:—

(i) Famine:— *42*:—(III. 3, 6, 17, 19; IV. 18, 19, 21, 29; V. 23, 27, 54, 56, 95; VI. 9; VII. 3, 7, 18; VIII. 19; IX. 14, 18, 23, 41; X. 2, 20; XI. 13, 30, 31; XII. 19, 21; XVII. 5; XX. 1, 2; XXXIII. 12; XXXIV. 15, 16; XXXV. 4; XLVI. 27; XXVI. 45; XLVII. 13, 16; LVIII. 50; LXXXVIII. 24).

(ii) Drought and scarcity of rain:— *32*:—(III. 26; IV. 13, 21; V. 20, 23, 55, 61; VI. 2, 5, 8; VII. 2, 3; VIII. 28, 43-44; IX. 37, 44; X. 2; XI. 31; XII. 19; XVII. 21-22, 23; XIX. 2, 19-21; XX. 2; XXX. 9, 26; XXXII. 14; XXXIII. 12; XXXIV. 16; XXXV. 5; XLIII. 64; XLVII. 13).

(iii) Heavy rainfall and flood:— *11*:—(III. 37; V. 34; VII. 1, 18; VIII. 48; IX. 24, 36; XXI. 24; XXVII. 3; XXVIII. 10, 22).

(iv) Earthquakes:— *5*:—(III. 9-10; V. 63, 92; XVII. 16; XXIV. 25).

(v) Fire:— *9*:—(III. 6; VII. 1, 18; VIII. 17, 19, 28; XIX. 7-9; XXXIV. 15; XXXV. 4).

(vi) Thunderstrokes:— *2*:—(V. 63; XXI. 31).

(vii) Whirlwinds and storms:— *4*:—(III. 9-10; V. 94; VIII. 28; IX. 38).

(viii) Pestilence:— *14*:—(III. 3; V. 23, 27, 58; VI. 9; VIII. 47; XI. 12, 30; XII. 21; XXXV. 4; XLVI. 40, 71, 80; LXXVIII. 24).

(ix) Diseases and sickness:— *35*:—(III. 26; IV. 29; V. 92; VI. 2, 4; VII. 2, 3, 7, 16, 18; VIII. 3, 17, 34, 42, 48, 51; IX. 18, 23, 33, 37, 44; XI. 31; XII. 19; XVII. 5; XXIV. 29; XXX. 15; XXXII. 14; XXXIV. 15; XLV. 9; XLVI. 25, 27, 71; LIII. 60; LX. 6; LXXVIII. 24).

(x) Plagues:— *2*:—(VIII. 40, 43-44).

(*Part 2.*)

Horoscopes relating to traders and professions, according to the Bṛihajjātakam.

1 Craftsmen and Artisans	2 Merchants and Traders.	3 Citizens and Farmers.	4 Slaves, Servants and Despised Calling.	5 Bad Livelihood.
One will have some knowledge of sculpture. (XVIII. 11) One will be an artisan of a low order. (XVIII. 11) One will be a weaver. (XIX. 1) One will be a workman (e.g. carpenter, etc.). (XXI. 9) One will be an artisan or a painter. (XXIII. 6) One will be a maker of bows and arrows. (XII. 15) He will be born a bad workman. (XII. 9) One will be clever in stone work, metal works and pottery. (XIV. 1) People are clever in weaving, stitching, dyeing, etc. (XIV. 2) One will be a good sculptor. (XVII. 9)	Wealth by trading fragrant articles, ivory goods, hides and gold. (VIII. 2) Profit by selling molasses, curds, butter, clothing, flowers, sesamum seeds, food, etc. (VIII. 13) Clever in buying and selling. (VIII. 17) He will earn money by selling scents, gold, woollen goods, drugs, conch shells, pearls etc. (X. 2) He will earn money in dealing with minerals, jewels, cows, buffaloes, etc. (X. 3) He will earn his livelihood by means of trade in carts. (XII. 3) He will be clever in dealing with various metals and pottery. (XIV. 1) He will be a seller of manly instruments such as hammers, etc. (XIV. 2)	One will obtain brass utensils, gold, mules, lands, good fortune, etc. (VIII. 15) He gets gold, horses, sons, elephants, etc. (VIII. 16) He gets asses, camels, hawks and other birds. (VIII. 18) He will earn his livelihood by cultivation. (X. 2) One will have his wealth through lands, woollen goods and goats. (VIII. 14) He will be an agriculturalist. (XII. 13) He will have many cattle. (XII. 18) They will have cowherds. (XIV. 3)	One will be a porter. (XVIII. 18) He will earn money by hard labour, by acts of torture and by base acts. (X. 3) One will have to earn his bread by hunting. (XI. 20) They will pass their days in servile works. (XII. 15) One will become a barber, a potter or a cook. (XIV. 4)	A man will turn into a decoit. (XI. 20) They will be gamblers. (XIV. 3) He becomes a thief. (XVI. 7) He will be a skilful gambler. (XVII. 3) He will be a thief. (XVIII. 5) He will be a westler. (XIX. 5) He will be a gambler. (XVIII. 8) He will be a thief. (Twice: XIX. 1; XXI. 7) He will be a king of thieves. (XXI. 7)

1 Craftsmen and Artisans	2 Merchants and Traders.	3 Citizens and Farmers.	4 Slaves Servants and Despised Calling.	5 Bad Livelihood.
He will be a painter. (XVIII. 2) He will be a goldsmith. (XVIII. 3) He will be a sculptor. (XVIII. 3) One will be a goldsmith. (XIX. 2)	He will be clever in buying and selling clothes. (XIV.. 2) They will be born merchants dealing with roots of plants, leaves, flowers, gums, barks and various fragrant substances. (XIV. 3) The stars will make one a merchant. (XVI. 8) One will be clever in buying and selling. (XVII. 7) One will earn money by selling pearls, jewels and other sea products. (XVII. 12) He will earn his bread as a cloth merchant or will sell sweet scents and oils, or will become a general merchant. (XVIII. 1) One will earn money by trading pearls, jewels, and some other sea products. (Twice: XVIII. 4, 9) One will earn money by maritime commerce and crossing the seas. (XVIII. 6) He will be a seller of weapons. (XIX. 1)		He will be engaged as a servant. (XIX. 1) One will be a slave. (XX. 4) He will be a servant. (XXI. 7) She will be a maid-servant. (XXIII. 6) He will become a slave. (XXII. 14) She will be a maid-servant. (XXIV. 5) He will be a distiller. (XVIII. 3)	

APPENDIX II.

Tables of recorded land sales in the Gupta Period

1 Name of the Purchaser (and source)	2 Name of the seller	3 Place of the land sold	4 Date of Purchase (and Name of the King)
(1) Name illegible [E.I.: XVII. p. 345]	Possibly the State land	Khādātapāra [Dhanaidaha in the Natore Sub-Division of Rajshahi in Bengal]	432-33 A.D. [Kumāragupta I's reign]
(2) Karpatika (a Brāhmaṇ) [E.I. XV. p. 130 Pl. 1]	State land	Kotivarsha Vishaya [in Pundravardhana in Bengal]	443-44 A.D. [Kum. I]
(3) Bhoyila Bhāskara [E.I. XXI. p. 78]	State land	From two localities in the village of Vāyigrama [in Baigrām in N. Bengal]	447-448 A.D. [Kum. I]
(4) Name illegible [E.I. XV. p. 133 Pl. 2]	State land	Kotivarsha Vishaya (Pundravardhana-bhukti, Bengal)	448-449 A.D. [Kum. I]
(5) Natha-Sarmā + Rāmi (his wife) E.I.: XX. p. 59	State land	From the villages of (a) Prasthima-Pōllaka (b) Gōsātapunjaka (c) Nitvagōhāti (d) Vata-gōhāti (in Pundravardhana in Bengal)	478-479 A.D. [Budhagupta]
(6) Nābhaka E.I. XV. p. 135 Pl. 3	State land	Chandagrama (Pundravardhana-bhukti)	Date illegible
(7) Ribhupāla E.I. XV. p. 138 Pl. 4	State land	Koṭivarsha vishaya (in Pundravardhana-bhukti)	Date illegible 5th Century A.D.
(8) Kulaputraka (a noble man) Amritadeva E.I. XV. p.. 142 Pl. 5		-do-	543 A.D. Name of the Gupta Emperor illigible
(9) Vātabhoga I.A. 1910 Pl. "A" p. 195	From the leading men of the localities	Bhukti of Vāraka (in Faridpur East Bengal)	Early 6th Century A.D. (Dharmāditya)
(10) Vasudeva-svāmin	Thoda or Thodasa a *mahattara*	Bhukti of Varaka (in Faridpur, East Bengal)	Early 6th Century A.D. (Dharmāditya)
(11) Batsapala-svāmin	From a Bharadvāja Brāhmin	Village Dhuvilāti (in Bengal)	6th Century A.D. (Gopachandra)

Tables of recorded land sales in the Gupta Period

5 Price of the land per *Kulyavāpa*	6 Type of the land	7 Amount of the land sold	8 Reference to the record keepers department
(1) Not mentioned	Cultivated land	1. *Kulyavāpa*	Record-keeper has confirmed the sale (possibly one)
3 (2) *dīnāras*	*Apradā—aprahata, khila* (cultivate waste land)	1. *Kulyavāpa*	Determined by the record-keepers (1) Risidatta (2) Jayanandin (3) Vibhudatta
2 (3) *dīnāras*	(a) *Astamba khila* (shrubless cultivable waste) (b) *Sthala-vāstu* (homested land)	(a) 3. *Kulyavāpas* (b) 2. *Droṇavāpas*	Determined by (1) Durgādatta (2) Arkkadāsa
3 (4) *dīnāras*	*Apradā*	The amount of land is not traceable	Determined by (1) Risidatta (2) Jayanandi (3) Vibhudatta
2 (5) *dīnāras* (not recorded in the inscription)	Homested and cultivated land	1½ *Kulyavāpa* of land (from the four different villages)	Determined by a board of record keepers—Presided by Devākaranandin
2 (6) *dīnāras*	*Aparadā khila* (cultivable waste)	1 *Kulyavāpa*	Determined by Patradasa
3 (7) *dīnāras*	*Vāstu* land (homestead)	Area unspecified	Determined by (1) Vishudatta (2) Vijayanandin (3) Sthānunandin
3 (8) *dīnāras*	*Khila* and *Vastu* (cultivable waste and homestead land)	5 *Kulyavāpas*	Determined by (1) Naranandin (2) Gopadatta (3) Bhatanandin
4 (9) *dīnāras*	Cultivated land	3 *Kulyavāpas*	Determined by Vinaya Sena
4 (10) *dīnāras*	*Khila* (cultivable waste)	Area unspecified (but the price was two *dīnāras* only = ½ *Kulyavāpa*	Determined by Janmabhuti
4 (11) *dīnāras*	Cultivable land	Probably one *Kulyavāpa* of land	Determined by Nayabhuti

APPENDIX III.

The gold content of Gupta coins

The gold content of Gupta coins has so far been investigated only by Cunningham (Table II.b) and Sinha (Table I.c). In comparing their results we found some serious discrepancies. So we thought it advisable to study the gold content of the coins of the earlier Gupta kings. In testing the coins we have the invaluable assistance of Mr. S. K. Guha, post-graduate research student, Birkbeck College, who has weighed each coin both in air and water with great care. We have weighed almost all the gold coins of Chandragupta I and Samudragupta in the British Museum, with the exception of a few very worn pieces; and for comparative study we have also weighed eight Archer-type coins of Chandragupta II and nine Archer-type of his son and successor Kumāragupta I. Thus, a careful study of 77 coins of the early Gupta kings has fully convinced us that Cunningham's analysis is incorrect.

We have prepared an exhaustive table of early Gupta coins, and also of eleven coins of the late Kushāṇa king, Vāsudeva, in order to understand the former properly. From the table II.a we may draw some very interesting conclusions. Our analysis of Chandragupta-Kumāradevī coins in table I.a agress with Dr. Walker's report (Table I.b) on some of these coins, while on others the two analyses disagree only by a few grains. These variations may be due to the fact that his assistant weighed the coins in water by means of a fine iron wire, which is not very flexible and suitable, instead of by fine cotton thread used by us at the time of taking the weights. So there is only a slight difference between the two sets of results obtained by Dr. Walker and ourselves. The air weights of the coins numbers 4 and 7 in the B.M.C. are not correct, for there is no loss in weight in water. In view of the discrepancy of weight in these two coins, we do not depend on the B.M.C. for air weight. It may thus be the fact that there is some discrepancy also in the B.M.C. in the case of the Chandragupta-Kumāradevī coins, and this weight may have been accepted by Dr. Walker's assistant. In any case, either Cunningham's coins are entirely different from ours, or errors crept into his investigations. So we ignore his findings and concentrate our attention on our own analysis.

From the point of view of pure gold content we may group our coins in five categories :—

(i)	Vāsudeva coins	118 grains
(ii)	The Chandragupta-Kumāradevī coins	109 grains
(iii)	The Archer, Tiger and Lyrist coins of Samudragupta	104-5 grains
(iv)	The Standard, Battle-axe, Kācha, and Aśvamedha coins of Samudragupta and Archer coins of Chandragupta II	98-99 grains
(v)	The Archer coins of Kumāragupta I	92 grains

It can be tentatively suggested that they were issued in the same chronological order on the principle of Gresham's Law. This points to the fact that the "Chandragupta-Kumāradevī" coins, as Altekar believes, were issued by Chandragupta I himself and not by Samudragupta. Moreover, the "Kācha" coins, if issued by Samudragupta at all, were issued, like his Aśvamedha coins, towards the end of his reign, when his power was at its highest. This makes it less probable that they are his, for it is on the face of it unlikely that he would give up his throne-name and revert to a popular name when at the height of his power. It can thus be conjectured that the Kācha coins were not issued by Samudragupta, but by a usurper..

TABLE I(a)

Laboratory report on some of the Gupta gold coins from the British Museum, London, as tested by Mr. S. K. Guha and the author.

Serial No.	Name of the King	Coin type	B.M. catalogue No.	Specific gravity of the coins	Percentage of pure gold
1.	Samudragupta	1. Standard type	1	16.7	86.5
2.	,,	,,	2	18.5	95.7
3.	,,	,,	3	17.2	89.3
4.	,,	,,	4	15.7	81.2
5.	,,	,,	5	15.6	81.0
6.	,,	,,	6	15.6	81.0
7.	,,	,,	7	16.0	83.0
8.	,,	,,	8	15.3	79.5
9.	,,	,,	9	16.4	85.0
10.	,,	,,	10	15.4	80.0
11.	,,	,,	11	14.9	77.2
12.	,,	,,	12	16.6	86.0
13.	,,	,,	13	16.0	83.0
14.	,,	,,	14	15.0	77.7
15.	,,	,,	15	15.5	80.5
16.	,,	,,	16	17.4	91.1
17	,,	,,	17	15.8	82.0
18.	,,	2. Archer type	18	16.0	83.0
19.	,,	,,	19	17.2	89.3
20.	,,	,,	20	16.2	84.0
21.	,,	,,	21	18.1	93.9
22.	,,	,,	22	18.1	93.9
23.	(Samudragupta) Chandragupta 1	3. Chandragupta-Kumāradevī	23	15.9	82.5
24.	,,	,,	24	18.2	94.3
25.	,,	,,	25	18.6	96.2
26.	,,	,,	26	15.7	81.2
27.	,,	,,	27	17.4	91.1
28.	,,	,,	28	17.4	91.1
29.	,,	,,	29	19.3	100.0
30.	,,	,,	30	16.3	84.4
31.	,,	,,	31	18.6	96.2
32.	Bought from Messrs. Sprink 1919	,,	32	18.7	96.9
33.	Dr. W. Hoey's collection	,,	—	18.7	96.9
34.	Samudragupta	4. Battle axe	32	14.0	72.5
35.	,,	,,	33	15.2	79.0
36.	,,	,,	34	14.2	73.6
37.	,,	,,	35	16.6	86.0
38.	,,	,,	36	15.8	82.0
39.	,,	,,	37	15.6	81.0
40.	,,	,,	38	19.3	100.0
41.	,,	,,	39	16.2	84.0
42.	,,	,,	40	16.8	87.0
43.	,,	5. Kācha	41	16.6	86.0
44.	,,	,,	42	15.9	82.5
45.	,,	,,	43	16.7	86.5

TABLE I(a)—*contd.*

Serial No.	Name of the King	Coin type	B.M. catalogue No.	Specific gravity of the coins	Percentage of pure gold
46.	"	"	44	16.4	85.0
47.	"	"	45	15.2	79.0
48.	"	"	47	16.0	83.0
49	"	6. Tiger	48	17.2	89.3
50.	"	7. Lyrist	50	16.5	85.4
51.	"	"	52	17.0	88.2
52.	"	"	53	17.0	88.2
53.	"	"	54	18.0	93.2
54.	"	"	55	15.3	79.5
55.	"	8. Aśvamedha	56	16.4	85.0
56.	"	"	57	15.7	81.2
57.	"	"	58	16.4	85.0
58.	"	"	59	16.2	84.0
59.	"	"	60	16.1	83.1
60.	"	"	62	15.1	78.1
61.	Chandragupta II	9. Archer (Class I)	63	17.9	92.8
62.	"	"	64	16.7	86.5
63.	"	"	65	15.5	80.5
64.	"	"	66	16.9	87.5
65.	"	"	67	15.6	81.0
66.	"	"	68	16.0	83.0
67.	"	"	69	15.3	79.5
68.	"	" (Class II)	71	16.6	86.0
69.	Kumāragupta I	10. Archer	190	14.4	74.7
70.	"	"	192	14.2	73.6
71.	"	"	193	14.3	74.2
72.	"	"	194	15.3	79.5
73.	"	"	195	15.4	80.0
74.	"	"	196	14.5	75.1
75.	"	"	197	14.2	73.6
76.	"	"	198	13.4	69.6
77.	"	"	199	14.8	76.7

N.B.—Sp. gr. of pure gold = 19.32.

TABLE I(b)

Report by Dr. Walker, Keeper of Coins and Medals, British Museum, London on some of the Gupta coins of ancient India, as tested by the Museum Laboratory staff :—

Serial No.	Name of the King	Coin type	B.M. Cat. No.	Sp. Gr. of coins. Sp. gr. of pure gold =19.32	% of pure gold (to nearest whole no.)
1.	Samudragupta	Standard	1	16.77	87%
2.	,,	,,	2	16.58	86%
3.	,,	Kācha	41	15.86	82%
4.	,,	,,	42	15.88	82%
5.	,,	,,	43	15.63	81%
6.	,,	,,	44	15.99	83%
7.	Chandragupta	Kumāradevī	23	15.81	82%
8.	,,	,,	24	17.5	91%
9.	,,	,,	25	17.5	91%
10.	,,	,,	26	15.96	83%
11.	,,	,,	27	17.71	92%
12.	,,	,,	28	17.45	90%
13.	Samudragupta	Archer	19	17.28	89%
14.	,,	Lyrist	50	17.23	89%
15.	Chandragupta II	Archer	63	16.1	83%
16.	,,	,,	83	15.45	80%
17.	Kumāragupta I	,,	190	14.28	74%

(Sgd.) JOHN WALKER
(Keeper)

TABLE I(c)

Laboratory report of certain later Gupta coins as given by Dr. Allan.[1]

Serial No.	Name of the King	Coin type	B.M. Cat. No.	Sp. Gr.	% of pure gold
1.	Skandagupta	Archer	428	15.3	78%
2.	,,	,,	417	Not stated	74%
3.	,,	,,	418	,,	74%
4.	,,	,,	419	,,	67%
5.	,,	King and Lakshmi	422	,,	67%
6.	,,	,,	423	,,	72%
7.	,,	Archer	426	,,	79%
8.	,,	,,	427	,,	76%
9.	,,	,,	428	,,	79%
10.	Kumāragupta II (Karmāditya)	,,	571	15.38	79%
11.	Purugupta	,,	550	15.06	77%
12.	,, (Dr. Hoey)	,,	—		70%
13.	Prakāsāditya	Horseman	552	15.	77%
14.	Narasimhagupta	Archer	560	14.1	71%
15.	,,	,,	565	12.29	54%
16.	Vainyagupta	,,	589	14.54	73%
17.	Kumāragupta II (? III)	,,	576	12.26	54%

[1] Sinha's Appendix Ia, b, c.

TABLE II(a)

Abstract of table I(a), showing pure gold comtent of coins:

Serial No.	Name of the King	Coin type	Av. wght. in air (grains)	Av. % of pure gold	Av. content of pure gold (grains)
1.	Samudragupta	Standard	116	83.5	98
2.	„	Archer	118	88.8	104
3.	(Samudragupta) Chandragupta I	Chandragupta-Kumāradevī	118	91.9	109
4.	Samudragupta	Battle-axe	118	82.8	98
5.	„	Kācha	116	83.8	98
6.	„	Tiger[1]	118	89.3	105
7.	„	Lyrist	118	87.7	104
8.	„	Aśvamedha	118	82.7	98
9.	Chandragupta II	Archer	118	84.6	99
10.	Kumāragupta I	„	122	75.2	92.

[1] Weight of only one coin out of two in British Museum Cat.

TABLE II(b)

Reports of tests of some of the Kushāṇa and Gupta gold coins as given by Cunningham[1]:—

No. of coin examined	Name of the King	Total weight of the coin	Pure gold content	% of pure gold
		KUSHĀṆA COINS		
7.	Wema Kadphises	123.0	112.75	92%
11.	Kaṇishka	123.0	112.75	92%
25.	Huvishka	123.0	112.75	92%
21.	Vāsudeva	123.0	102.95	84%
		GUPTA COINS		
8.	Kācha	123.0	102.5	83%
12	Chandragupta I	123.0	107.6	87%
50	Samudragupta	123.0	107.6	87%
40.	Chandragupta II	123.0	107.6	87%
47.	Kumāragupta I	123.0	107.6	87%
48(a)	Skandagupta	124.6	108.4	87%
9(b)	His heavier coins	140.0	73.0	52%
4.	Narasinghagupta	146.0	73.0	50%
2.	Kumāragupta II	148	66.5	45%
2.	Vishnugupta	149	66.5	45%

[1] Cunningham's coins of Mediaeval India. p. 16.

TABLE III(a)

Laboratory reports on some of the gold coins of Vāsudeva (or Bazodeo) of the Kushāṇa dynasty from the British Museum, London, as tested by Mr. S. K. Guha and the author:—

Serial No.	Name of the King	B.M. Cat. No..	Sp. Gr.	% of pure gold
1.	Vāsudeva (Bazodeo)	1	18.9	98.0
2.	,,	2	19.3	100.0
3.	,,	6	19.1	99.0
4.	,,	7	18.8	97.5
5.	,,	8	17.1	88.8
6.	,,	9	17.5	90.7
7.	,,	10	18.9	98.0
8.	,,	11	19.0	98.5
9.	,,	15	18.7	97.0
10.	,,	19	16.0	83.0
11.	,,	20	17.7	91.7

TABLE III(b)

Abstract of Table III, showing pure gold content of the coins of Vāsudeva:—

Total No. of coins	Name of the King	Av. weight in air (grains)	Av. % of pure gold	Av. content of pure gold
11	Vāsudeva (or Bazodeo)	124	94.7	118

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X. Journals and Commemorative Volumes

A. Journals

Ancient India:	Bulletin of Archaeological Survey of India.
Archaeological Survey of India Annual Report:	Pub. by Govt. of India.
Archiv Orientalni:	Prague.
Annals of the Bhandarkar Oriental Research Institute:	Poona.

Arts and Letters—India and Pakistan:	London.
Bulletin of the School of Oriental and African Studies:	University of London.
Epigraphia Indica:	Pub. Govt. of India.
Indian Antiquary:	Bombay.
Indian Culture:	Calcutta.
Indian Historical Quarterly:	Calcutta.
Journal of the American Oriental Societies:	Maryland.
Journal of the Bihar Research Society:	Patna.
Journal of the Bombay Branch of the Royal Asiatic Society:	Bombay.
Journal of the Indian Society of Oriental Art:	Calcutta.
Journal of the Royal Asiatic Society of Great Britian and Ireland:	London.
Journal of the Numismatic Society of India:	Bombay.
Memoirs of the Archaeological Survey of India:	Pub. Govt. of India.
Numismatic Chronicle:	London.
Proceedings of the Indian Historical Congress.	(in J.R.A.S.B.).

B. Commemorative Volumes

Ashutosh Mookerjee Silver Jubilee Volumes:	3 Vols. in 4 parts. Calcutta, 1922-1928.
B. C. Law:	2 parts. Calcutta, 1945-46.
Bhārat-Kaumudī: R. K. Mookerji Commemorative Volume:	2 parts. Allahabad, 1945-47.
R. G. Bhandarkar Commemoration Volume:	Poona, 1917.

ABBREVIATIONS

Ait. Brāh.	=	Aitareya Brāhmaṇa.
A.I.	=	Ancient India. (Bulletin of the Archaeological Survey of India).
Amara	=	Amarakosha.
A.M.S.J.	=	Ashutosh Mookerjee Silver Jubilee Commemorative Volumes.
Āps.	=	Āpastamba Dharmasūtra.
Appen.	=	Appendix.
Arri.	=	Arrian.
Arth.	=	Arthaśāstra.
A.S.I. (A.R.)	=	Archaeological Survey of India, (Annual Report).
A.V.	=	Atharva Veda.
Baudh.	=	Baudhāyana Dharmasūtra.
Bhārat. Kau.	=	Bhārat Kaumudī.
Bṛi.	=	Bṛihaspati Smṛiti.
Bṛihat.	=	Bṛihatsaṃhitā.
Bṛihatjā	=	Bṛihatjātakam.
Comm.	=	Commentary.
C.P.	=	Copper Plate.
Corp. Life	=	R. C. Majumdar's 'Corporate Life in Ancient India.'
Dic.	=	Dictionary.
E.I.	=	Epigraphia Indica.
Fleet	=	J. F. Fleet's 'Corpus Inscriptionum Indicarum Vol. III.'
Gaut.	=	Gautama Dharmasūtra.
Govt.	=	Government.
Hema.	=	Hemachandra.
H.R.S..	=	U. N. Ghoshal's 'Hindu Revenue System.'

I.A. = Indian Antiquary.
I.C. = Indian Culture.
I.H.Q. = Indian Historical Quarterly.
Imp. Gaz. = Imperial Gazetteer.
Ins. = Inscription.

Jāt. = Jātaka.
J.A.S.B. = Journal of the Asiatic Society of Bengal.
J.B.B.R.A.S. = Journal of the Bombay Branch of the Royal Asiatic Society.
J.B.O.R.S. = Journal of the Bihar and Orissa Research Society.
J.N.S.I. = Journal of the Numismatic Society of India.

Kām (or Kāman) = Kāmandakiya Nitisāra.
Kām. Sū. = Kāmasūtra of Vātsyāyana.
Kum. = Kumārsambhava of Kālidāsa.

Legge. = Travels of Fa-hsien.

Māl. = Mālavikāgnimitram of Kālidāsa..
M.A.S.B. = Memoirs of the Asiatic Society of Bengal.
Matsya. = Matsya Purāṇa.
Mbh.. = Mahābhārata.
Medhā. = Medhātithi.
Meg. = Meghadūta of Kālidāsa.
Megas. = Megasthenes.
Mudrā. = Mudrārākshasa of Viśākhadatta.
Mṛichchha. = Mṛichchhakaṭika of Śūdraka.

Nār. = Nārada-Smṛiti.
Num. Chron. = Numismatic Chronicle.
Num. Suppl. = Numismatic Supplement (in the J.R.A.S.B.).

Peri. = Periplus of the Erythrean Sea.
Pl. = Plate.
P.T.S. = Pāli Text Society.

Raghu. = Raghuvaṃśa of Kālidāsa.
Rājt. = Rājataraṅginī.
Ṛitu. = Ṛitusaṃhāra of Kālidāsa.
R.V. = Ṛig. Veda.

Śak.	=	Abhijñāna Śākuntalam of Kālidāsa.
S.B.E.	=	Sacred Book of the East.
S.B.H.	=	Sacred Book of the Hindus.
Śuk.	=	Śukranīti-Sāra.
Tran.	=	Translation.
Vas.	=	Vasishṭha Dharmasūtra.
Vik.	=	Vikramorvaśīyam of Kālidāsa.
Viṣh.	=	Vishṇu Dharmaśāstra.
Yāj.	=	Yājñavalkya-Smṛiti.

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