

THE FOUNDERS OF HISTORY
Portrait Statue of Herodotus-Thucydides
(By kind permission of the Society for the
Promotion of Hellenic Studies)

HISTORY

BY

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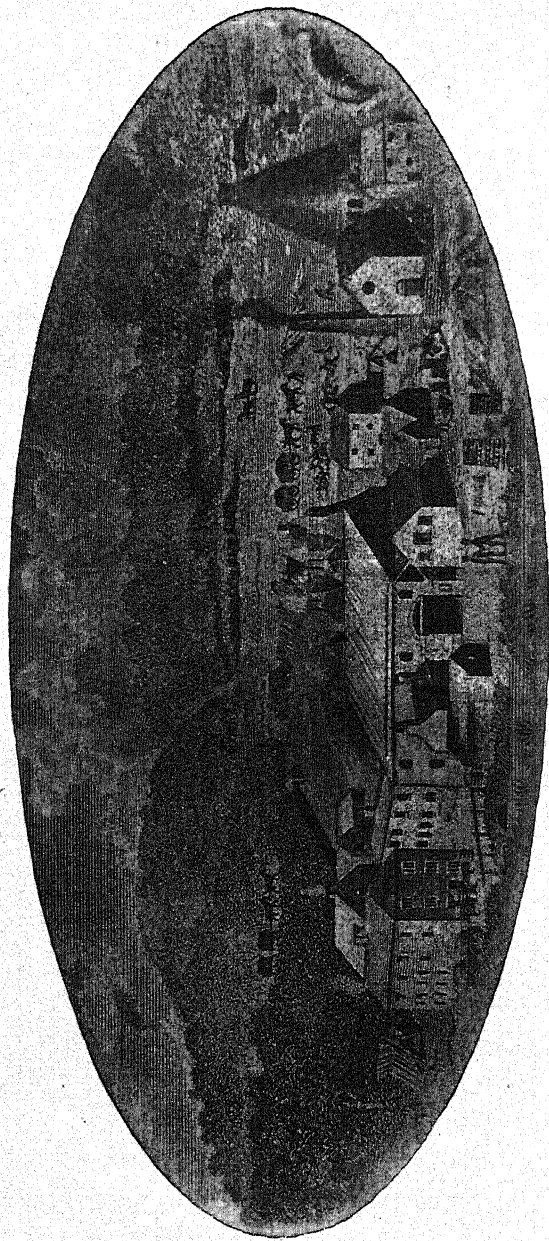
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DEVELOPMENT OF THE METAL INDUSTRY No. 5

OLD COALBROOKDALE

from Iron and Steel in the Industrial Revolution by Thomas Southcliffe Ashton

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CHAPTER I

SOCIETY, SCIENCE AND HISTORY

WITHIN the last hundred years the societies inhabiting western Europe and North America have achieved conspicuous success in control over external nature. The spectre of famine that constantly haunted ancient and mediæval civilizations and still threatens with annihilation peasant masses in Asia and barbarian tribes in the Pacific has been effectively banished save in so far as these societies themselves evoke it by their own bellicose behaviour. Plague and pestilence which with famine still represented an ever present menace to everyone when the Church of England Litany was compiled, have been brought under control save again when war releases them. The expectation of life has consequently risen excessively. The stupendous natural forces harnessed in the turbine, the electric motor and the internal-combustion engine work for men's social—and anti-social—ends more potently than the muscles of thousands of sweating labourers or plodding oxen. Air conditioning leaves human activity independent of the vagaries of weather, making life equally tolerable, healthy and comfortable midst dust-storms and snow-storms. Men can safely and swiftly encircle the globe by road, air and sea, transporting necessities and luxuries from pole to pole. Telegraph, telephone, radio and television have annihilated all spatial limitations on intercourse.

Control of the social environment—of the relations between individuals, groups, nations and classes—has, on the other hand, achieved no comparable success. Within twenty-five years two world wars, not to mention continuous but localized conflicts, have released forces of destruction that threaten to obliterate all that the productive forces have slowly built up if not to extinguish mankind itself. During the brief intervals of truce the productive

forces have been deliberately restrained; inventions have been suppressed; crops have been limited and actually destroyed. Millions of skilled and willing workers have been rendered unemployed and reduced to semi-starvation. Millions more are undernourished and housed under conditions incompatible with health and efficiency. Recurrent crises have baffled statesmen and financiers and have robbed even the most prosperous classes of hope of rational planning in their private lives.

Notoriously man's control over external nature has been achieved through knowledge of nature. It has progressed hand in hand with the systematization of such knowledge in the natural sciences. And advance has been fastest where the results of the experimental sciences—geometry, mechanics, physics and chemistry—can be applied and has been accelerated by the adoption of experimental methods in other sciences—medicine, genetics, agronomy. A reasonable inference has been that the painful discrepancy between humanity's control over the external environment and its incapacity to control the social environment is due to the absence of any science of society, the failure of sociology to become genuinely empirical and the impossibility of conducting experiments under laboratory conditions in human relationships.

Now it is all too true that no one can conduct such experiments in economics, politics or international organization. We cannot in practice frame conditions so as to isolate one factor and thus discover a single 'cause' as that word is understood in experimental physics, genetics or medicine. So-called experiments like the League of Nations, the Builders' Guild and the various Co-operative Commonwealths fall far short of the conditions obtainable in a laboratory. Their promoters can always argue plausibly and irrefutably that their failures were due to extraneous disturbing circumstances, and the detached observer is left to wonder what exactly was *the* cause. Even a comparative

sociology aiming at the establishment of general rules and a general scheme recurrent in many 'instances', the differences between which can be ignored, as anatomy draws up a generalized chart of the human body based on features that recur regularly in the vast majority of dissected corpses, can make little headway. On the one hand the number of observed and observable instances is very limited; on the other hand it is questionable how far these 'instances' are genuinely independent, how far any human society is really comparable to any distinct corpse and not rather to some organ or member of one body—a point to which we must return on p. 63.

Still mankind ever since its first emergence has been continually experimenting not only in controlling external nature, but also in organizing that control co-operatively. The results of these experiments are embodied on the one hand in the archaeological record—the concrete relics and monuments of the past—and on the other hand in documents transmitted orally, pictorially or best of all in writing. History should be the scientific study of all these sources. It should yield a science of progress, though not necessarily an exact science, like physics, nor an abstract descriptive science, like anatomy. It should, in other words, disclose, if not mathematical laws or a static general scheme, an order, in its own way as intelligible as that of astronomy or anatomy.

The value of scientific laws is that they provide maxims for action. But really it is now agreed that even in the most exact sciences the precision of scientific laws is not as absolute as it seems. On the contrary, such laws are statements of probabilities of an enormously high degree taking things in the mass, but with a very limited application to individual objects and events. That is obvious enough in the case of Mendelian laws; no geneticist pretends to be able to predict from them which chicken will be X and which Y. The same turns out to be true of physics. What

is termed the Principle of Indeterminacy proclaims that though you know the velocity of an individual electron, you cannot even calculate its position at a given moment.

In the last resort even in these domains we come up against something incalculable, unpredictable and uncontrollable that we may term 'chance'. But in the mass the individually unpredictable movements and random events do constitute an order which we can recognize, utilize and understand. The mathematical laws of physics, chemistry or astronomy are shorthand expressions for an order of this kind. They are not imposed on nature from without to constitute the order, as statutes imposed by parliaments or sovereigns—if efficiently enforced by policemen—constitute a political order.

In a rather similar way an anatomical chart of the human body discloses the orderly arrangement and interconnexion of bones, muscles, blood-vessels, nerves and organs. It does not constitute the order. Individual human bodies may diverge from the standard in the position of an organ, the attachment of a muscle, even the number of ribs. Still the chart is an indispensable guide to the operating surgeon.

Science reveals in subhuman nature other sorts of order, not expressible in precise numerical formulæ nor yet in generalized abstract charts, but nevertheless intelligible. And a knowledge of such an order is again practically usable. For example, a given natural region, like the Yosemite valley in California, supports as a result of its form, soil and climate, appropriate trees, herbs and grasses. Various species of insect, bird and beast can and do live upon this vegetation. Other beasts live upon them. Looked at close up it seems a cruel, senseless and disorderly regime. An individual deer could hardly perceive any order when pursued by wolf or bear. Nevertheless, out of all the trampling, grazing, hunting and killing does emerge a sort of order, a balance of nature, which is on the whole beneficial to all the competing constituents. If it be disturbed, all are likely to suffer. In

Yosemite the deer were artificially protected by the slaughter or confinement of the beasts that preyed on them. It soon appeared that the deer were multiplying so fast as to outstrip the food supply. The whole deer population were becoming undernourished and diseased. In other words even for the hunted deer as a species the balance of nature had been advantageous though not of course for the individual victims. And clearly an appreciation of this order is of practical value to game wardens for the conservation of natural resources.

The Law of Evolution would be a name for a similar sort of order, only this time a process. Darwin's phrases 'Natural Selection' and 'Survival of the Fittest' are just signposts to the recognition of such an order in the 'Struggle for Existence', a process which, as its name implies, would seem brutal, extravagant and senseless when looked at from inside, so to speak. It would have been unintelligible to a Dinosaur or a Pterodactyl doomed to extinction, even had those creatures possessed a brain capable of conceiving of an order at all. Viewed as a whole and from outside, it is seen to have a direction; all its constituent events are seen to be interrelated in an intelligible way.

It should be the historian's business to disclose an order in the process of human history. The purpose of this book is not to set forth general laws summing up the historical order, leaving the remaining volumes merely to supply 'instances' of their operation. There are no laws of this kind; even less than physical movement, is the process of history governed by statute imposed from outside. Our purpose is rather to show by a review of various theories of historical order what kind of order you may really expect to find in history and how its study can be useful. But before reviewing historians' theories it will be helpful to give an illustration of historical order to serve as a standard and also to explain how historians come to have any facts to theorize about.

CHAPTER II

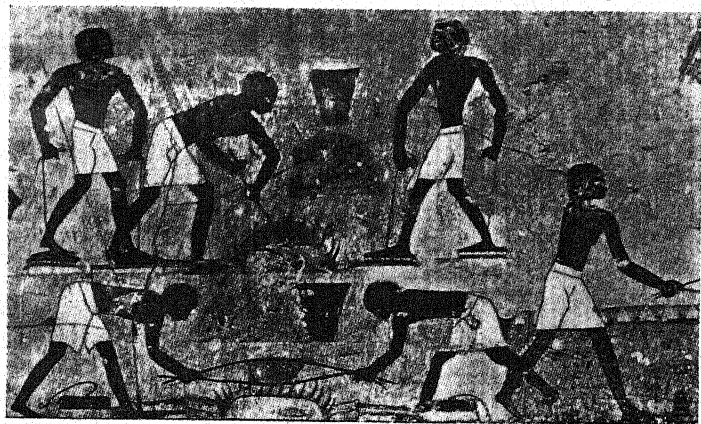
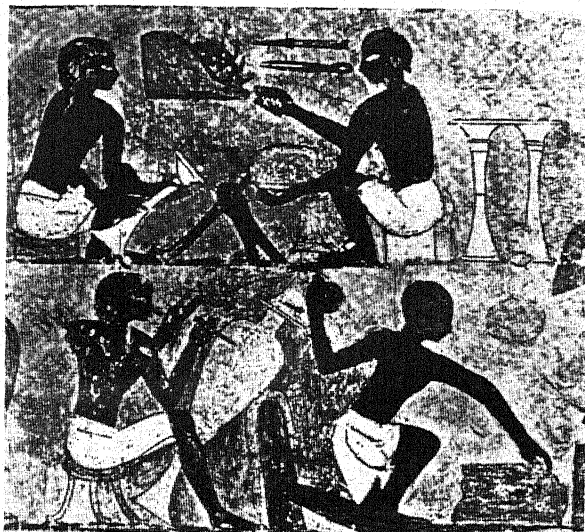
EXAMPLE OF AN HISTORICAL ORDER

THE sort of order we are entitled to expect can best be made clear by an example obtained by isolating one factor in the historical process. I select technology, i.e., the tools and machines of production, not only because I am an archæologist and my science has been built up on a classification based on just this factor, but also, precisely because it is accessible to archæological study, its development can be followed over a longer time than that of any other factor. The examination will soon show that other factors, too, have to be reckoned with. In the last chapter, however, we shall argue that the technological is nevertheless in the long run the most decisive.

Notoriously, men, ever since they have been men, have acted upon external nature mainly with the aid of the tools they fashion. They have extended their control over nature to the heights indicated in the first paragraph by improving these tools.

From the time when the first men emerged, perhaps half a million years ago, throughout 98 per cent of the species' existence the best tools any men used were made of stone. For that reason the first Stage in the archæologist's classification is termed the Stone Age—or more precisely the Old Stone or Palæolithic Stage. Only very slowly did men acquire a real mastery over even that one material, and learn what sort of tools could be made from it and the best processes for making them.

But after, perhaps, 400,000 years they had learned to make quite efficient knives, scrapers, gravers, awls, choppers and pounders, and with their aid to work also wood, bone, horn and ivory. From these materials they could make also needles, bows and arrows, darts, fish-hooks and eventually even sledges and paddles. But all the labour of making

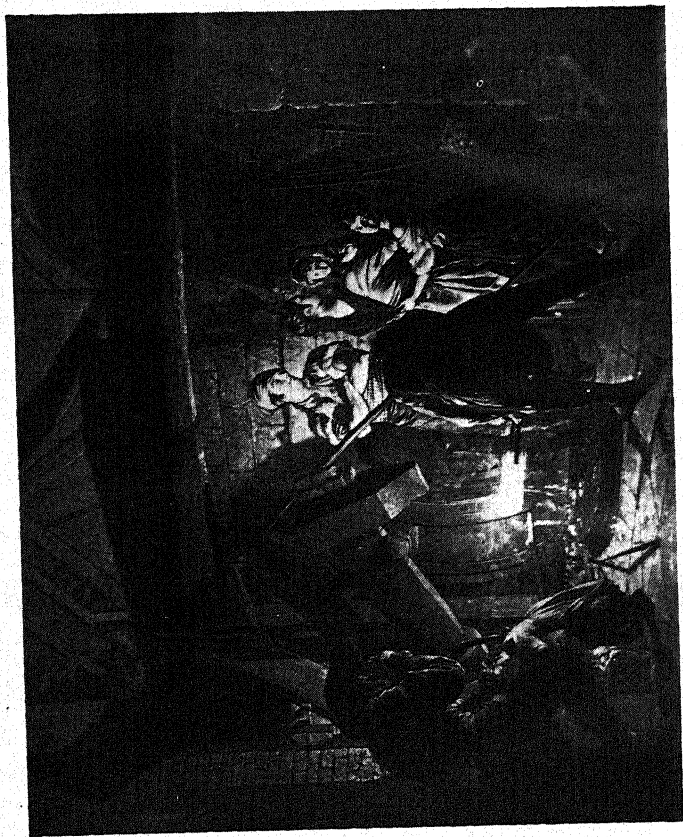


DEVELOPMENT OF THE METAL INDUSTRY No. 1

METAL-WORKERS IN THE FIFTEENTH CENTURY B.C.

Egyptian metal-workers from the tomb of Rekhmare

(By kind permission of the Royal Anthropological Institute)



DEVELOPMENT OF THE METAL INDUSTRY No. 4

AN IRON FORGE, 1773

R. Earldon Sc. after Jo. Wright from the Coalbrookdale MSS. From Iron and Steel in the Industrial Revolution by Thomas Southcliffe Ashton
(By kind permission of the Manchester University Press)

and using them had to be done with human muscle alone and all food had to be caught or collected.

About 10,000 years ago some men began to cultivate wheat and other plants and breed sheep and other animals. In so doing they began to harness a natural force, to control it and make it work for them. For a wheat seed or a ewe is a biochemical mechanism, and it has been now set to work under human direction to produce more wheat or more sheep. Prehistorians call this step the neolithic revolution; stock-breeding and plant cultivation are taken to mark the New or Neolithic Stage of the Stone Stage or Age.

Then, some time between 4000 and 3000 B.C., some people discovered how to smelt and cast copper and eventually how to alloy it with tin or some other metal. That initiated the next archæological Stage, commonly termed the Bronze Age. From metal could be made more durable and accurate tools and new kinds of tool, such as the saw, with the help of which wheels could be carved and masts solidly planted in boats. Probably within this period oxen, asses, or even horses were harnessed to pull ploughs, wagons or chariots and the winds to propel sailing boats. Some of the heavier labour of transportation and cultivation was thereby shifted from human shoulders while traffic was accelerated. But copper (and, still more, bronze) was always very expensive, being a comparatively rare metal that generally had to be fetched from barren mountains far from the fertile valleys where farmers choose to dwell.

With the divulgation of the secret of smelting and forging iron about 1200 B.C., initiating the Iron Stage, metal tools replaced stone ones as costly copper and costlier bronze had never been able to do. Among the enormously enlarged body of workers now accustomed to use metal tools some were clever enough to invent new ones. The five centuries beginning about 600 B.C. witnessed an unprecedented spate of novel tools including tongs, shears, planes, scythes, spades. . . . until by the beginning of our era most modern

manual tools had already assumed standardized forms. Still more significantly oxen and donkeys were set to work corn-mills, olive-crushers and ore-grinders about 500 B.C. and after 100 probably to drive irrigating machines, too. Before our era began water-power had been harnessed to turn corn-mills. That involved the invention of gearing, and the latter device was employed also in clocks driven by water-power. Cranes, pulleys and block-and-tackle were invented for raising weights, as well as a force pump for lifting water.

It looks as if a new Stage of Power Production should already have begun, but in effect that was delayed for a thousand years. Down to A.D. 1100 water-power was used almost exclusively for corn milling and even there very sparingly down to 500. But windmills for the same purpose are mentioned in Iran before 700 and after 1000 also in Normandy. Then in the Middle Ages of Europe water-power was applied also in fulling, pulping, grinding ore, driving bellows for blast furnaces, drawing wire, and eventually spinning. In the same period clockwork mechanisms were greatly improved and a proper suction pump developed. Even in the sixteenth century pump cylinders seem to have been made of wood, and so were most of the parts of the various windmills and water-mills and the machines they drove. Still, a water-driven mechanical blast made it possible for the first time to cast iron as well as forge it, and in the sixteenth century, cannon and other cylinders were being cast.

This prepared the way for a new stage in technological development based on the exploitation of reserves of thermal energy from the sun stored up in the bowels of the earth as coal, natural gas and oil. The Coal Age begins with the utilization of mineral instead of vegetable fuel in metallurgy (for iron smelting about 1700, for casting in 1783, for steel manufacture in 1856) and with the employment of steam to drive the first pumping plants in mines (Newcomen's engine



DEVELOPMENT OF THE METAL INDUSTRY No. 2

Above: GREEK SMITHY, SIXTH CENTURY B.C.

Below: EGYPTIAN METAL-WORKERS, FOURTH CENTURY B.C.

(By kind permission of the Royal Anthropological Institute)

1705, Watt's 1770), then various sorts of mill machinery, and lastly locomotives and paddle ships. In the meantime the old wooden machines were being translated into iron and steel and new machines were invented with increasing velocity. Thereafter the dynamo and the electric motor opened a second phase, the internal-combustion engine a third.

The foregoing paragraphs have summarized in the barest outline a sequence of historical events. It is an orderly sequence not only because the events are arranged in the order of their occurrence. It is orderly also and more significantly because we can see that the events detailed not only did, but also must, succeed one another in just this order; orderly, too, because the events not only follow one another but also tend all in one recognizable direction—they make a pattern.

It is, for instance, almost self-evident why the steam-engine could only be invented after the discovery of how to cast iron and after the invention of the pump and, of course, that of the wheel. For one thing, the cast bronze cylinders of the Roman force-pump were certainly too expensive, if not also, like the mediæval wooden pump-barrels, too feeble, to fulfil the purposes of Newcomen's and Watt's machines. The Greeks of Alexandria had, in fact, dreamed of making steam drive things, but the results would have remained toys even had they hit upon the idea of making the expanding steam push a piston. Again, to produce the temperature requisite for melting and casting iron, a mechanical blast was needed so that iron casting had to come after the invention of the waterwheel. The latter obviously presupposes the wheel itself that was equally necessary for all practical steam-engines. And so on. Each invention is determined and conditioned by preceding events. The sequence is necessary and its necessity is intelligible.

On the other hand there is nothing transcendental about this necessity—it is not imposed on the process from outside. Nor is the order deducible *a priori* from any general

principles overriding the actual sequence. As a matter of pure theory there seems no reason why the era of electrical power should not have grown directly out of water-power production without the interposition of a coal and steam age. Historically it did not, and it would be quite easy to show how the electro-chemical discoveries that first revealed electricity as a current were in fact bound up with coal and metallurgy and how the machines and cables that made the generation and transmission of current possible on an economic scale actually depended on steam-driven engineering industries.

Looking back on the process from outside its directional character is no less obvious. Each step has in fact resulted in the extension of rational human control over brute nature and enhanced society's independence of the non-human environment. But to admit that after half-a-million years we can recognize direction in a process, is not to say that it has been directed. There is no warrant for the assumption that technology has advanced along ready-laid rails towards a fixed and predetermined terminus. On the contrary it is just as reasonable to assert that the process has determined its own direction, that the rails have been laid down step by step as it proceeds. The historical character of a process lies precisely in its self-determination.

The progress of technology has just been presented as an orderly sequence of historical events. Let us scrutinize them more closely. Each event is then seen to be anything but simple. The most striking aspect in the events considered is the invention or discovery of the new tool, machine or process. This appears as the achievement of an individual inventor. Actually the names of some are known—Arkwright, Darby, Newcomen, Stephenson, Watt, etc. The persons who discovered how to cast iron, how to smelt it, how to smelt and cast copper, who invented a windmill, a donkey-mill, a wheeled cart, a saw, an axe, these are anonymous and impersonal.

Assume that the process of invention was the same, more or less, as that of the steam-engine. It involves in every case the recombination, rearrangement and modification of things already familiar to the inventor. In all historical inventions certainly, and probably in most prehistoric ones too, the invention begins not with the manipulation of bits of matter with the hands, but with the recombination of symbols in the head. By symbols I mean not primarily ciphers or diagrams drawn on paper, but ideas or psychical images present to the mind alone—but still images of material things with which the inventor is familiar.

This familiarity is derived on the one hand from his own personal experience, on the other from the accumulated and sifted experience of past generations handed on by example, by precept and, since the sixteenth century, by written tradition. Watt, for example, was familiar with steam and kettles on the one hand, with pump-barrels and valves on the other, results of past experiments, discoveries and inventions. Actually he was also familiar with Newcomen's engine and all he had to do was to add the condenser and other contrivances. These were certainly decisive and revolutionary advances, in effect transforming an atmospheric into a steam-engine, but Watt's individual contribution was small in comparison with the social capital to which he contributed, I mean, with the accumulated inventions and discoveries, that society transmitted to him from the latest improvements in iron founding and valves to the control of fire itself and the boiling of water with hot stones in the Old Stone Age. This is not to depreciate the role of genius. It is a warning against the magical view that treats genius as a sort of Jack-in-the-box, appearing out of the unknown and operating in a void to create something out of nothing—a conception all too fashionable in certain historical schools.

Really the invention is only one aspect or factor in the historical event. Watt could not only secure the materials,

instruments and labour requisite for the construction of his steam-engine, but was also assured of a market for the disposal of his product which was, in fact, designed to meet a clamorous demand for some better method of draining mines. He was, in a word, sure that any suitable engine would be taken up and used by society. For the historical event such use is just as essential as the invention. An invention that no one uses or knows of is not an historical event at all; if the new tool or process remains confined to the inventor's workshop or cave, it is historically negligible. In modern times, no doubt, there is a chance that the blue-prints will be rescued from patent office archives, translated into practical form and set to work. But these conditions are quite recent and do not apply to the earlier and really harder steps in technological progress. Suppose a Bronze Age smith did discover a better alloy than copper and tin; if he failed to train a school of apprentices to apply the process and if he found no customers to use his products regularly, his discovery has died with him. So it has been no contribution to technological advance, and, as that is all the historian can or should study, it has zero value for history.

No tool or process, save perhaps some of the simplest and earliest, is an entirely private individual affair. In practice all tools are made and used socially. Today we normally buy tools that somebody else has made; in the case of even simple iron tools a huge number of individuals, from the miners who dug the ore to the shop-assistant who sells the utensil, have participated in its manufacture and distribution, and each of these has learned from parents, masters, foremen or engineers how to perform his part in the complicated processes involved. The same held good in a diminishing degree of the handicraft stage, of the early Iron Stage, of the Bronze Stage and even of the Stone Stage. In the last, no doubt most households made their own tools. But they had learned from parents and elders how to make them and what form they should assume. It was

never left to every individual to discover for himself what sort and shape of stone would cut down a tree or skin a buck. His society had standardized a suitable shape of tool and a method for its manufacture from the accumulated experience and experimentation of past generations and handed on this traditional practice to the novices of the next.

In the same way we do not have to discover for ourselves how to operate a screwdriver or a brace. Most of us are taught by our parents, schoolfellows, or the dealer who sold us our car. And this statement applies without any restriction to all previous stages.

In these ways every tool and process is a social product. For an invention to become an historical event the newly invented instrument must be accepted by some society, by some organized body of persons larger and more permanent than any single individual. A slightly more attentive examination would reveal other aspects of the event or at least conditions indispensable to the conversion of an invention into an historical event. Watt was assured of the supply at his workshop of the materials and labour requisite for the construction of steam-engines by a quite specific economic system for the distribution of products and for inducing men to work—a system that had not always been in operation, but had gradually developed in England during the sixteenth and seventeenth centuries. To understand his invention as an event in history we should therefore have to take into account these relations of production. Closer scrutiny would show that political, legal and even religious factors were involved.

I have sketched technological progress as a continuous linear sequence of events. But only when viewed from a very remote distance—very abstractly—would the several events appear to lie on a straight line. Actually the path of progress looks distinctly erratic. Different societies advanced at different speeds at different times. The steam-engine was notoriously invented and first used in Britain

at a time when no other country had got beyond water and donkey power. The metallurgical use of coal, too, began in western Europe if not in England early in the eighteenth century. In the Urals charcoal was still normally used for iron smelting till the late nineteenth century, though about 1750 Russia produced four times as much pig iron as England. In Negro Africa charcoal smelting is still the rule today.

Water-power was first applied to manufactures (other than corn-milling) in Central Europe—Germany and upper Italy—whence the machines with millwrights and operatives were introduced into England in the fifteenth and sixteenth centuries. But the water wheel itself was almost certainly invented by the Greeks and first used in the East Mediterranean. It was in the same area and probably by the same people that its precursor, the donkey-mill, and the novel iron tools indispensable for the fabrication of such machines had been invented. For two centuries after Greek artisans had been equipped with that improved kit, Egyptian craftsmen were still struggling along with the obsolete instruments invented a thousand or two thousand years earlier in the Bronze Stage. But at that time Egyptian technology had been as much ahead of the Greek as it was inferior to it in 400 B.C. The wheel first appears in the archæological record between the Indus and the Tigris before 3000 B.C. and is recognizable on the monuments of Greece and Egypt only a thousand or fifteen hundred years later. But even then Germany was still in the Stone Stage just as Britain had been in the Bronze Stage when the Greeks were inventing donkey-mills.

To explain these vagaries and fluctuations we should have to refer to events of another order. Social, economic, political, juridical, theological and magical institutions, customs and beliefs have acted as spurs or brakes upon men's inventiveness. To show how would take us beyond illustration into history in all its organic complexity.

THE FORMATION OF A TRADITION OF
HISTORIOGRAPHY

THE process of technological development sketched in the last chapter as an illustration is concretely recorded for the archæologist to study. A large proportion of the relics of the past, arranged and classified in museum collections, are just the tools of production used by our ancestors and forerunners. As they are already arranged chronologically, the decipherment of the historical development of productive forces should be comparatively easy despite gaps in the record. If technological progress exhausted the content of history, the direction and pattern of the historical process would be readily recognizable. But we have just seen that in practice it is distorted by economic, political and other relations.

Now archæological relics and monuments supply little direct and unambiguous information on conditions of labour and the distribution of its products or the political institutions and legal systems upholding these. The ruins of St. Stephen's and a corroded fragment of the Speaker's Mace by themselves would leave future archæologists very wide room for speculation as to the political and economic structure of twentieth-century Britain; the most popular guess if the present generation of antiquaries had to interpret such remains without the aid of written or oral tradition would be a despotic monarchy, symbolized by a palace and a sceptre, maintained by a population of slaves and serfs! Luckily the archæological record has for several millennia been supplemented by writings and traditions that are more illuminating on these topics.

Many 'backward' tribes, till recently in the Stone Age, have, nevertheless, preserved traditions going back for many generations. The most celebrated instances are provided by

the Polynesians in the Pacific, especially in New Zealand. There Maori families have handed on from father to son genealogies that purport to cover several centuries. Though they start with manifestly imaginary divine beings, the remaining portions of these lists of ancestors are extremely consistent one with another and are very probably reliable. References to the deeds of ancestors are occasionally included, and in particular to the great voyages that brought the Maori to New Zealand from Tahiti; for a man's rank in society is partly determined by the position his ancestor occupied in the canoe that carried him.

Peoples more advanced technologically have supplemented and replaced such oral traditions by written records. Systems of writing, of recording events by means of conventional (agreed) symbols on stone, clay or papyrus were invented by the Egyptians on the Nile and by the Sumerians in the Tigris-Euphrates delta (southern Mesopotamia) some 5000 years ago. During the next fifteen hundred years these systems were adopted or others invented in most parts of Hither Asia, in Crete and also in China. Then after 1500 B.C. the Semitic Phœnicians of Syria devised a simpler alphabetic system of writing in principle similar to ours.

During the last millennium before our era alphabetic writing was carried by Semites to Carthage and its colonies in North Africa and the western Mediterranean, to southern Arabia and other parts of the Near East, while it was adopted and adapted by the Greeks and the peoples of Iran and India. Greek colonists carried versions of their alphabet to the Black Sea coasts, Italy and South France. In Italy Greek alphabets were adopted with suitable modifications by the Etruscans and the Romans, and the latter's version, the Latin alphabet used in this book, was in the early centuries of our era diffused first through the Roman Empire and then by Christian missionaries beyond its former frontiers among the barbarian Celtic and Teutonic tribes. In the same way versions of the Greek alphabet were

transmitted to the Slavonic peoples of Russia and the Balkans by missionaries of the Eastern Church from Byzantium (Istanbul). Even earlier, Buddhist missionaries had carried Indian systems of writing to many peoples of Central and south-eastern Asia while systems based on Chinese symbols were adopted in Korea and Japan.

The point of any system of writing is of course to make reliable records of things that are important not only to the individual who notes them down, but for colleagues and successors. In Mesopotamia demonstrably, and probably everywhere, the earliest written documents were, not surprisingly, accounts and contracts. Next come religious texts, since the efficacy of prayers and spells was among most early peoples supposed to depend upon the accurate repetition of the precise formulæ allegedly revealed to seers or proved efficacious in practice. Such beginnings were in the sequel followed by 'scientific texts' illustrating mathematical formulæ, medical treatments and the like, treaties, laws, even poems and romances, but also quite early 'historical texts' in the narrower sense, at first dedicatory inscriptions or epitaphs designed magically to perpetuate the achievements mentioned, and soon after connected 'annals'.

Of course all written documents contain data for history. Business documents, from the Sumerian temple accounts of the third millennium B.C. to those of mediæval abbeys and manors, and of modern trusts and railway companies, provide the most reliable information on economic conditions and the relations of production. The vast libraries of theological and magical tablets, papyri, parchments, and books that have been treasured for centuries offer not only the principal evidence for the development of religious and philosophical ideas, but also vivid glimpses into social, economic and political conditions; the sole contemporary source for early Chinese history, for instance, consists of questions put to oracles that not only mention kings' names and battles, but also ask how many tens of human

victims should be sacrificed to ensure success on a given occasion.

But if most written documents may be sources for history, some profess to be histories or at least records of *memorabilia*, of events that society deems worthy of commemoration. A tradition of historical writing has been gradually built upon and out of these. All share almost inevitably certain common characteristics.

Till quite recently reading and writing have been 'mysteries' revealed only to a minority of initiates in any society. Indeed, in Russia before the Revolution and in India and China today the immense majority of the population has been illiterate. That was at first inevitable. The first systems of writing to be invented—the Sumerian and its successor Babylonian cuneiform, the Egyptian hieroglyphics and the Chinese characters—were exceedingly complicated and cumbersome. The art of using them required an even longer and more tedious apprenticeship than the crafts of the jeweller and the sculptor. Those who could read and write, the clerks or scribes, thus formed a specialized class of experts. In Mesopotamia the Sumerian script seems to have been invented by the priesthood, and in all the ancient civilizations priests were normally literate as in mediæval Europe. Only a few other classes, notably doctors, lawyers and civil servants, combined writing with their distinctive professions.

With the adoption of alphabetic writing the technical obstacles to literacy were enormously reduced. Still there were no particular inducements for most people to learn the craft. Merchants and financiers, of course, would learn to keep their own accounts and read their correspondence instead of being, as before, entirely dependent on hired or servile clerks. But in general there was not much to read; books laboriously copied by hand on costly papyrus and more costly parchment were prohibitively expensive, and of practical use in only a few professions. While there was

a high percentage of literacy in the urban populations of the Greco-Roman world where the high development of commerce, finance and law involved a multiplication of written documents, the rural population remained largely illiterate, and it formed the vast majority.

In Christian Europe, despite the recognition of the Bible as a Sacred Book, literacy was in practice virtually restricted to the Church. In England, for instance, it was only after the Reformation that it became necessary to distinguish 'clerk' in the sense of cleric from 'clerk' meaning anyone who could write by the addition of the words 'in holy orders'. In the Mohammedan world, though the reading of the Koran was a duty on all believers and its transcription a work of merit, the practical position was little better. Indeed, the virtue attaching to the physical act of copying the sacred texts by hand, proved a bar to the adoption of printing. But it was printing that after 1500 gradually made books cheap and so gave artisans and even farmers some inducement to learn to read. The writers of chronicles and histories being drawn from such limited circles and writing for such a limited public would naturally regard as memorable only what was of interest to themselves and to those sections of society with which they were closely connected.

Now all literate societies have actually been also class societies divided into ruling and subject groups. The oldest literate societies of Egypt, Hither Asia and China, were despotic monarchies or theocracies. A divine king at the head of a nobility of great landowners and supported by a numerous body of privileged priests ruled over the vast masses of half-free tenants or serfs and a sprinkling of artisans and merchants. In the Iron Stage of the Mediterranean the government was often republican and the ruling class substantially larger—an 'aristocracy' of prosperous landowners, a plutocracy of merchants, slave-owners and financiers, or even a democracy in which artisans and small holders, too, had an effective voice in the government.

Nevertheless even in a democracy the enfranchised male citizens were perhaps a minority opposed to the disenfranchised women, resident aliens and slaves. In mediæval Europe the king and his feudal landowners, including many ecclesiastical dignitaries and monastic foundations, were similarly contrasted to the unfree peasantry and the artisans and burghers of the towns.

The latter eventually absorbed, or were absorbed by, the landed aristocracy as in the Glorious Revolution of 1688 or replaced it as in the French Revolution. But though the ruling class has been thereby changed and enlarged, landowners, financiers and industrialists remain a ruling class by virtue of their exclusive ownership of the land, the mines and the machines of production contrasted with a proletariat that, owning neither land, raw materials, nor tools, must sell its labour for wages to those that do.

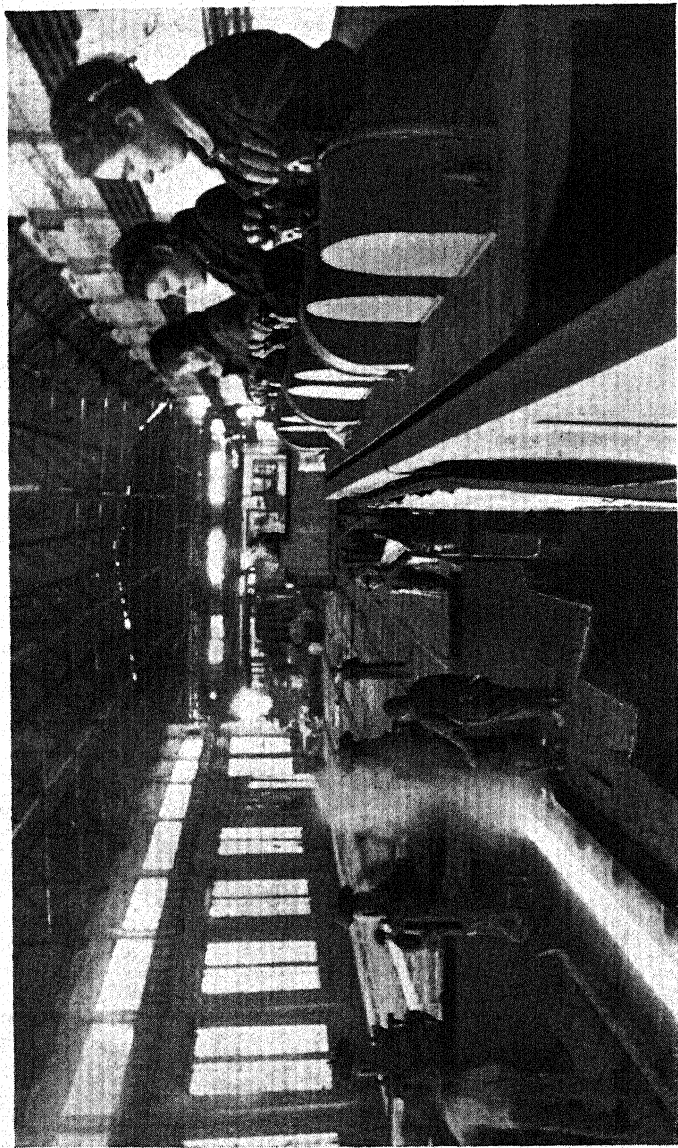
In class societies the literati or clerks, the minority who can read and write, have nearly always belonged to the ruling class or been closely identified with it. The first Sumerian clerks were drawn from the temple priesthood and servants of the city god, who was also the largest landowner in each city-state. The city-king apparently began as the chief priest or the earthly representative of the god. If later laymen, too, were trained as clerks, they would act as the servants—but always privileged servants—of the king or his nobles. In Egypt, where the pharaoh was an actual god, the clerks were his officials or agents of his nobles. Though always dependent on these effective rulers, they enjoyed a favoured position of authority over the great masses of the peasantry and artisans. 'The scribe is exempt from all manual tasks; it is he who commands,' runs a father's exhortation to his schoolboy son.

The clerks of the Middle Ages were in much the same position as Sumerian scribes; for all were 'clerks in holy orders', and the church which conferred those orders was the greatest and richest of all feudal landlords and a

staunch supporter of the established order. In a Classical republic or a bourgeois democracy the situation is not so simple. In Greece and the Roman Empire even slaves could often read and write. But the authors of histories were generally citizens and well-to-do citizens at that. In any case they would have to write for patrons rich enough to buy their books or to recompense them in other ways for their story-telling. Even in contemporary Britain where literacy is universal, the principal market for history-books is formed by the ruling class and its favoured dependants and imitators in the middle classes. Naturally, therefore, publishers are more willing to disseminate histories that are interesting from the standpoint of the ruling class.

Now no chronicler nor historian can attempt to record all events; from the superfluity of happenings he must select what he regards as memorable. His selection is determined to a very small extent by his personal idiosyncrasies, but on the whole by tradition and social interests. Indeed, save for personal memoirs and diaries, the standard of the memorable is a social one, dictated by interests shared by the whole community, or more precisely by the ruling class in each community.

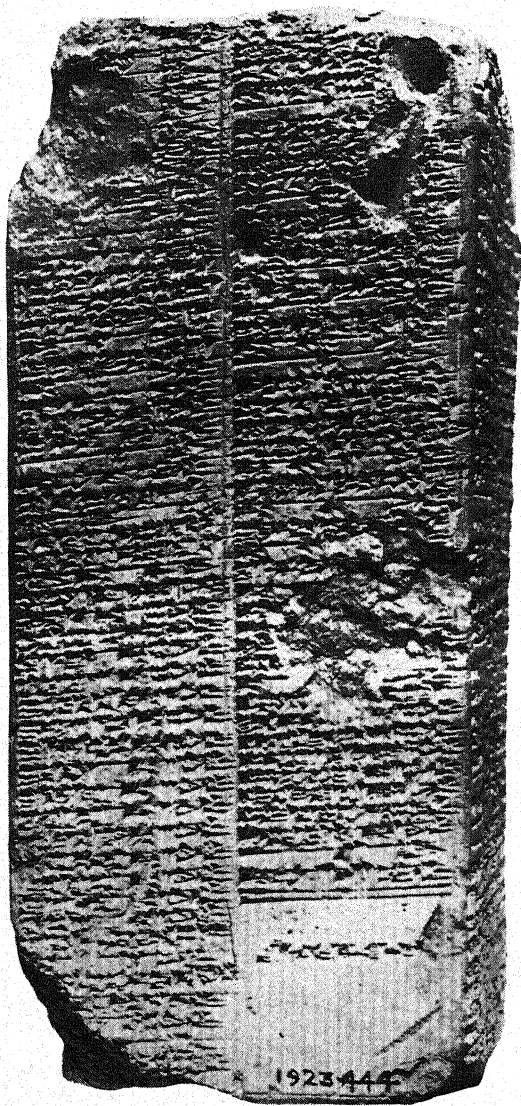
Again, in so far as an historian imports judgements into his narrative, the standard of value will be determined socially. It is just no good demanding that history shall be unbiased. The writer cannot help being influenced by the interests and prejudices of the society to which he belongs—his class, his nation, his Church. An early Sumerian priest of Lagash who wrote an account of his city's defeat by her rival, Umma, describes the tragedy as an unprovoked and unjustifiable aggression by the enemy. Egyptian, Babylonian and Assyrian annalists and all their successors depict wars and conquests from an exclusively nationalistic standpoint. The Assyrian history which presents the ruthless destruction of Susa and massacre of the Elamites as a punishment of rebels against the national god Ashur, only



DEVELOPMENT OF THE METAL INDUSTRY No. 6

METAL-WORKERS IN THE TWENTIETH CENTURY

Krasny Okeyevr Steel Works in Stalingrad



THE WELD BLUNDELL PRISM OF THE SUMERIAN KING-LIST

(By kind permission of the Department of Antiquities, Ashmolean Museum, Oxford)

expresses blatantly what Seeley's *Expansion of England* puts more subtly. Even when an author tries to rid himself of such prejudices and 'put the other side', he generally falls into mere sentimentalism. Tacitus in describing the Roman conquest of Scotland, presents the case of the Britons with apparent fairness, but without the least realization of the actual conditions ruling among the barbarian tribes of the north as prehistoric archæology and a critical comparative study of Celtic literature reveal them.

The historian's selection of events as memorable is constantly controlled by the foregoing factors, but their effect is variable; for as ruling classes change, so do their interests. On the other hand, the selection is also influenced by the tradition of historiography itself. The bankers and industrialists of America and western Europe are by no means so absorbingly interested in warfare as a perusal of most modern history books might lead you to imagine. But the professional historians have absorbed from their masters and models the conviction that war should form a central theme in history and have nearly persuaded their shy patrons that they should be interested in it. One of the most original and successful of these, Henry Ford, however, did have the courage to say 'History is bunk'.

This tradition is older than the beginnings of writing. For, as already indicated, illiterate barbarians and even savages keep records of what seem to them memorable events. Among the American Indians wars, treaties, particularly successful hunts, famines, grand feasts are among the things thus commemorated. To individuals such records are of practical value. One's prestige is enhanced by one's ancestors' deeds of prowess in the chase, in war and in magic. Among the Kwakiutl of British Columbia where prestige depended upon a display of generosity at competitive feasts, one of the clients of an ambitious chief would be charged with the duty of remembering what gifts he had received and what he had given in return. Moreover,

tales of great exploits and marvels are often popular even when they lack such personal appeal.

Now in default of writing versification is an aid to memory. Such are among the factors that generate heroic ballads, epics and folk tales. Such poetic traditions, handed on orally, are exempt from the competitive controls that impose a certain accuracy on Polynesian and other genealogies. Indeed, a premium is placed upon exaggeration to gratify a patron's pride and enhance the auditor's excitement. Yet epic and folk-tale elements have been accepted into most early histories—the Song of Deborah and many other passages in Judges afford familiar examples.

Savages and barbarians relate myths to explain the reasons for, and origins of, customs, rites and institutions, of the tribe itself and of 'the world' in so far as the tribe has any conception of a world. Such take the form of histories of events that happened long ago, but the actors are gods, animals, or fabulous beings. The origins of myths are hotly disputed issues, but from the scientific standpoint all must rank as fiction. Yet a lot of myth has been incorporated in early histories. The earlier books of the Old Testament are particularly rich in myths like the Creation story, the legend of Noah, and the Tower of Babel.

After the invention of writing in Mesopotamia, kings began to record on dedications in, or on the foundations of, temples, their pious deeds, their public works, and their victories in war probably in order to keep them magically before their gods' eyes, and so to ensure the continuance of the latter's favour. (In making war, of course, the king was supposed to act at the behest of the god while treaties are made in the names of the gods, not of the kings, of the contending states.) Such royal inscriptions served at once as material for history and to set the standard of the memorable. After a thousand years or so they had grown into regular royal annals of each reign. In these Assyrian and Babylonian kings boastfully set forth in chronological

order the temples they had built, the public works they had conducted and above all the victories they had won in war.

But long before that a sort of 'world history' in chronicle form had come into existence to supplement the annals of individual reigns and dynasties. The earliest extant representative of this class is the so-called Sumerian King-list, actually compiled by an unknown clerk, about 2000 B.C. It starts with the Creation myth in a form very similar to those repeated in Genesis I and II, followed by a list of antediluvian monarchs and then a Flood story, again like the biblical tales. Thereafter follows a more prosaic list of the kings of the several cities that supposedly in turn exercised suzerainty over all the cities of lower Mesopotamia (the later Babylonia); the length of the reigns of each king are given and, exceptionally, some biographical details are added.

The first part is presumably pure myth; most of the rest, apart from some items derived from epics, seems to be based on reliable sources. It is worth while considering the latter even though they do not survive but have to be inferred. It is known that the ancient Sumerians did not reckon dates as we do from a single era. That practice was first adopted under the Neo-Babylonian Empire when the accession of Nabonidus, 747 B.C., became the zero from which all later events in the Empire's history were dated. The general practice in each Sumerian city was to name every year by some important event. Thus we have, 'Year in which the temple of god A was built'; 'Year of the digging of the canal F'; 'Year when King X smote city Y', to illustrate the sort of things regarded as memorable. Contracts were dated by including in them the year name. Very likely another system was used too; documents might be dated, like Acts of Parliament with us, 'nth year of King N'.

In any event, with the multiplication of loans at interest and of leases, it became necessary for business purposes to compile lists of years in their proper serial order so that, for instance, accrued interest could be calculated. As each city

originally had different kings and different year names, when transactions between citizens of different states became common, some tabular reconciliation of the several local systems became essential. This is just what the King-list offers. It may not have been the first and in any case is quite wrong. But it does reveal the practical motives inspiring this sort of chronicle, though we shall see in Chapter IV that the author had a theory as well.

Egyptian historiography had meanwhile developed along rather similar lines out of royal annals and epitaphs designed literally to immortalize the memorable deeds of the deceased. Other Oriental peoples, as they adopted writing and were organized as civilized states, began to preserve annals and chronicles similar in form and content to the Babylonian and Egyptian, and to some extent inspired thereby; the Babylonian influence was much the most important since most Oriental states adopted the Babylonian script and must have imported Babylonian clerks to write it at first.

Doubtless, the kingdoms of Judah and Israel kept documents of this sort. Such presumably furnished a major source from which the historical books of the Old Testament were compiled. The priestly editors, after 500 B.C., added complete myths, fragments of heroic poetry or prose summaries of such, and genealogies that may to some extent rest on good traditional foundations as in New Zealand. The influence of the Sumerian and Babylonian school of chronicle is evident in the arrangement and in the selection of memorabilia, with its accent on wars and battles, the deeds of kings and high priests and religious ceremonies, though the latter subjects are treated at greater detail and from a more doctrinal aspect than in other Oriental histories. Thus through the Bible the historical writing of the ancient East became one of the formative influences in European historiography since the Old Testament was one of the two models for Christian historians.

The other current of inspiration came from the classical

Greek historians and their Roman successors. Greek historical tradition, too, through the great epic poems ascribed to Homer, went back to the Bronze Age, but to a more barbaric bronze age than in the Orient, since in it chieftains or petty kings, although 'divine', ruled only tiny domains that scarcely deserve the name of cities. Lays, celebrating the warlike deeds and travel adventures of such kinglets, had been transmitted orally, enriched and embroidered by generations of bards who recited them first at the courts of the Bronze Age princes, then at the banquets of Iron Age aristocrats and, finally, to a more popular audience in industrial and commercial cities.

Naturally poems thus composed and transmitted are no more reliable for historical detail than a romance. But many Greeks took the Homeric poems, apart from their supernatural incidents, for history. And they served as a model for later writers in so far as these realized that history should be presented as a connected narrative with some pretension to artistic form and to a lesser degree as clues to what ought to be remembered. But the Greek historians, properly so called, wrote for a new ruling class of merchants, artisans, sailors, soldiers and professional men with interests other and wider than those of a barbarian tribe or a despot's court.

Social organization was no longer rigid as under barbarism or a theocratic monarchy; the established order had been dissolved by the new tools of production (p. 7), new relations of production mediated by coined money, and the impact of Oriental civilization on semi-barbarism. Every citizen was concerned with experiments at creating a new political order appropriate to the new economy. Every citizen was also a soldier and had probably taken part, if not in the stirring national struggle against the Persians under Darius and Xerxes, at least in one of the unending wars between the city states. On the other hand the elimination of 'divine kings' and the success of the new technology in really controlling nature had removed magic from its central

place in popular concern and allowed the old gods to retire to Olympus.

Hence, the first extant Greek historian, Herodotus, records in an artistic form as memorable political events, constitutions, party conflicts, diplomatic manœuvres, and, of course, wars and battles. He could, indeed, claim that a knowledge of what political experiments had been tried, how they worked and why, of the causes and strategy of wars, would be useful for citizens who had to vote in assemblies and fight in armies.

Thucydides, the next and perhaps the greatest of the extant Greek historians, adopted similar standards of the memorable in his history of the Peloponnesian war. But he was at the same time an artist of another kind, and gave his history a dramatic unity as if the historical order should be presented in aesthetic form. Moreover, where a modern writer would insert his own comments on the motives and aims of his actors, Thucydides adopted the convention of putting fictitious speeches in their mouths which incidentally served to display his rhetorical style—oratory was highly esteemed and very potent in the popular law courts and assemblies of the Athenian democracy as later at Rome and, for that matter, in our own Parliament and jury courts.

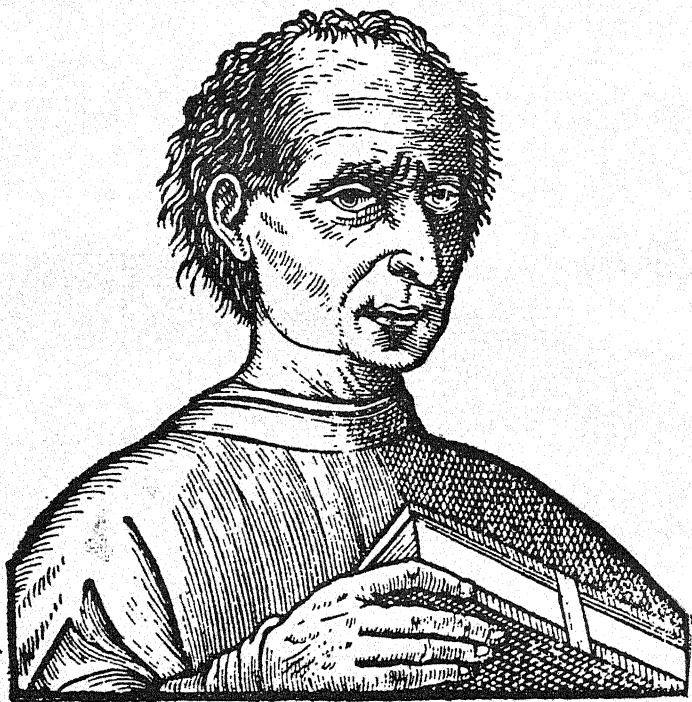
His Hellenistic and Roman successors accepted the literary and artistic standards of historical writing that Thucydides had established. All too many accepted nothing else. A history book was likely to become an exercise in rhetoric, and its author was liable to pay more attention to stylistic effects than to the accuracy of his facts and the connexions between them. The most celebrated orator of the late Roman Republic, Cicero, calls history *munus oratoris* and *opus maxime oratorum* (the orator's rewarding duty—mainly the business of orators).

Eventually the Classical economic system, based on slavery, broke down. Despite their technical successes in controlling external nature, the Greeks and Romans had

manifestly failed to master social and economic forces. After A.D. 250 the Roman cities decayed. Despotism stifled civic life. Soon the western Empire was overrun by barbarian hordes; in 410 the capital, Rome itself, was sacked. Men lost confidence in reason and science; rational planning seemed vain. To despair supernatural portents looked plausible and miracles the only salvation. So the Christian historians reverted to the annalistic form of the Oriental despotisms and made the Old Testament their model. For the monkish chroniclers, miracles and portents, persecutions and theological controversies form the core of history albeit still fringed with wars, battles and the intrigues of despots' courts. Technology, which the Classical historians ignored as servile and degrading (save when applied to war), was more than ever neglected by the narrower-minded clerks.

But by the Renaissance new productive forces, despite the silence of the chroniclers, were actually at work. A bourgeoisie was once again the ruling class in the Italian cities. Historians revived the Classical tradition and took the Roman authors as their models with all their stylistic ambitions and conventions right down to the fictitious speeches. In the fifteenth century 'the Florentine bankers and industrialists did not count upon miraculous interventions in their business life' (Fueter). The Humanists who wrote history for such eliminated both the portents and the theology of the Middle Ages. For them history was the result of human action alone and its proper theme, as in Classical times, politics, diplomacy and war. The great technical inventions of the age were beneath their notice. They treated history as a series of examples for the political instruction of rulers—first of the mercantile plutocracy, but after 1494 more often of despotic princes.

For even in Italy the bourgeoisie soon became dependent on military despots and in the rest of Europe supported autocratic monarchs against the feudal nobles. But Italian authors, on the invitation of such monarchs, introduced the



PORTRAIT OF MACHIAVELLI, FOUNDER OF THE FLORENTINE SCHOOL
from Tome II of Machiavelli's collected works 1550

(By courtesy of the British Museum)

humanist conceptions of historiography to European courts. Thus Polydore Vergil of Urbino was commissioned by Henry VII to write the History of England which he completed (in Latin) in 1533 and presented to Henry VIII.

The first triumph of the bourgeoisie—the merchants, bankers and master craftsmen of the towns—in their subconscious struggle to replace the ruling classes of feudalism—the landed nobility—was won in the religious sphere in the Reformation, and assumed the theological guise of Protestantism. Thereby interest in theology was revived,

and historians were induced, however reluctantly, to re-admit those religious questions that humanism had excluded. Camden, for instance, the founder of native historiography in England, declares at the end of the sixteenth century: 'I should, of course, be the last to deny that war and politics are the proper themes for history. Still, I could not, indeed I should not, omit ecclesiastical affairs.'

As the next step the rationalist historians of the Enlightenment in eighteenth-century France 'began to write history from the standpoint of those who were still subjects and introduced the views of the producing classes, the bourgeoisie, who had no part in the government' on the Continent (Fueter). But they still wrote for the enlightenment of princes in the naïve belief that these could and would by legislative act bring the relations of production into harmony with the new productive forces. The development of these, however, was still excluded from the purview of history. Indeed, it was not till the last quarter of the century that professional historians began seriously to take account of economic factors as expounded by Adam Smith in *The Wealth of Nations*.

Neither the signal victory of the bourgeoisie over feudalism in the French Revolution nor the technical triumphs of the Industrial Revolution sufficed to alter the traditional conception of memorabilia in harmony with the substantial interests of the new ruling class. On the contrary its richer sections were terrified by the 'excesses' of the Revolution. The consequent reaction is represented in historiography by the school of the 'Romantics', who rejected both the popular movements released in the Revolution and the rationalism of the Enlightenment that had inspired them. As the best means of countering revolutionary propaganda, they insisted—quite truly—that constitutions and creeds could not rightly be understood solely in terms of legislators and prophets, without reference to the formless and vague habits of acting and feeling

engrained in the masses of the people. 'Mankind appeared no longer as a uniform block reacting everywhere alike to the operations of politicians, but as differentiated into a multitude of "nationalities" each of which might respond in a peculiar way in accordance with its traditional modes of behaviour developed by its own distinctive traditions' (Fueter). The common people were therefore admitted to the stage of history beside kings and prelates, generals and prophets.

On foundations laid in 1815 prehistoric archæology had been constituted a science by 1859 and allowed European nationalists to trace their illiterate ancestors back to an antiquity rivalling that of the newly disclosed Egyptian and Babylonian chapters of written history. But the academic historians, especially in Britain, long remained sceptical of archæological evidence and hostile to its implications.

So strongly entrenched in tradition were professional prejudices, in Great Britain at least, that the portals of academic history were in practice open throughout the nineteenth century only to the trinity of themes prescribed by Camden—war, politics and institutional religion. Seeley's dictum sums up the official attitude in 1883: 'History is past politics and present politics future history'. Histories of art, of science, of commerce and industry of course there were, but they were written by and for artists, scientists and economists. In the school histories I had to study at the end of last century, Shakespeare and Milton, Galileo and Newton, the calculus and the steam-engine, mercantilism and the industrial revolution were no doubt mentioned. But artists, scientists, discoveries and inventions, technical relations and economic changes were conveniently isolated in well-marked paragraphs that could be omitted without interrupting the dynastic, militarist and ecclesiastical narrative, and without risking any loss of marks in examinations set by university teachers. Similarly, down to 1914, Greek mathematics, sculpture, technology and wages were treated in the same

surreptitious way in the standard text-books recommended for honours students at Oxford and could be neglected with equal safety.

It is, indeed, mainly since 1920 that histories so authoritative as the *Cambridge Ancient History* or so popular as Harmsworth's *History of the World* have really attempted to deal with human society and human culture and not merely 'morbid phenomena', 'the hypertrophy of organs of defence' and 'the scrap-heap of discarded states'.

CHAPTER IV

THEOLOGICAL AND MAGICAL CONCEPTIONS OF HISTORICAL ORDER

At all times some authors have regarded history, like Sir Charles Oman today, as 'a series of interesting happenings, often illogical and cataclysmic, not a logical orderly development from cause to inevitable results'. The historian's business would be to ascertain the happenings that are interesting and describe them in chronological sequence and in an artistic literary form.

If this be so, it is hard to see why one should study history. If the aim be to interest the reader, why not invent your incidents like a novelist? You will then be freer in the display of your rhetorical talent or whatever style you feel appropriate to give artistic form to your tale. If the work is to be edifying too, the moral values you wish to inculcate and the vices against which the reader is to be warned could be illustrated just as well by fictitious examples. This simple prescription has in fact been adopted by some writers from the royal annalists of Assyria and Babylonia, who composed flattering accounts of the king's conquests and victories, to

the patriotic authors whose text-books are designed to convince the masses that the highest human virtue and glory is to become cannon-fodder in imperialistic wars.

Such compositions may be dismissed as 'bunk' and 'poison'. At the best, if used with caution and appreciation of the authors' motive, they may be material for history—chronicle. For the Classical writers already distinguished between chronicle and history. The former records 'what was done and in what year it happened'; history must exhibit also 'the reasons and causes of events'. History, in fact, must possess an order beyond mere succession in time. The rest of this book will be devoted to several conceptions by which historical schools have sought to find order in that series of interesting happenings that seem to others 'illogical and cataclysmic'.

(1) *Theological Historiography*

The clerk who compiled the Sumerian King-list (p. 25) about 2000 B.C. believed he was recording a series of tragic catastrophes in which capital cities were violently destroyed and empires changed. But behind the changes, the tumult and the clash of arms, he thinks he discerns something continuous and stable. Each chapter, i.e., each dynasty, into which the list of post-diluvian kings is divided, ends with the same monotonous formula: 'City X was smitten with weapons; the kingship was transferred to city Y; in Y there was kingship'. The priestly author implies that these bewildering cataclysms were not accidental. Above the phantasmagoria of disasters, brooded a power, the inscrutable will of the gods. They intervened in human affairs like the despot who ruled the Oriental city-state. The latter was both legislator and judge. By his fiat he created law and order, but himself interpreted his legislation and executed it. The Bronze Age gods were conceived in the form of man, the ruler of other men, and also of man, the artificer, moulding and creating form in the shapeless matter like the

potter. But of course they were much more powerful than any earthly monarch, their kingdom more durable than any temporal empire. So their overriding will and sovereign legislation ordain and sustain an order in human affairs, even in international affairs.

The theological conception introduces an order into history, an order comparable to that of existing society. But it is imposed upon history, as the despotism was imposed upon society. Such a history will not seem useless. It may admonish rulers how to please the gods and so retain their thrones; it will at least inculcate submission to the divine will.

Biblical history is, of course, dominated by the same theological conception, more explicitly and systematically worked out by the priestly compilers. The fortunes of Israel, her judges and her kings, are determined by Yahweh who intervenes miraculously to save or chastise and who continuously guides and directs. But now his intervention is related to the acts of the people or their rulers. When Israel 'goes a-whoring after false gods', defeats in battle and oppression represent the execution of Yahweh's righteous judgements. Jehu the regicide is just the agent of the divine sentence pronounced against Ahab and Jezebel for their transgressions against the Law. For Yahweh's will has been revealed through Moses and the Prophets. His rewards and punishments are not dispensed arbitrarily but in accordance with the Covenant and with the Law that has been proclaimed.

Even the disasters of defeat and exile are ingeniously fitted into the scheme by the principle, 'whom the Lord loveth, he chasteneth'. Unity and order have thus been achieved albeit at the cost of importing a deity to maintain it and of adjusting a goodly number of recorded facts to fit them into the transcendental scheme. History thus becomes a series of salutary examples to confirm faith in the divine guidance of the Chosen People and to enjoin obedience to the Law and observance of the Covenant.

The historical tradition of the Christian Church accepts the same extraneous principle, but in a more spiritual and universal form. The true order of history was nothing but the divine plan for the redemption of the world, fore-ordained at least in outline from the Creation to the Last Judgement. Now that the fullness of the Plan had been revealed in the New Testament, the historian had only to record the steps in its execution. As the Roman Empire's economy collapsed within and barbarians from without occupied the Eternal City itself, the disillusioned survivors of the minority who had alone enjoyed the 'culture' of the Ancient World welcomed such a concept of history.

Augustine appealed to ancient history to show that 'mankind had been a sinful and rebellious race vexed by well-deserved wars and disasters. Rome was now following Nineveh and Carthage; salvation was for the individual soul. What happened to the world was of little import since the City of God triumphed in the salvation of the individual Christian man. History became a sort of phantasmagoria, only worth studying for its warnings' (Oman). Histories were indeed still composed, but for their edifying effect and in the spirit of the Old Testament. 'If history relate good things of good men, the attentive hearer is excited to imitate that which is good. But if it mention evil deeds of evil men, the pious reader learns to shun that which is hurtful and perverse', wrote Bede. Indeed since only the Plan's end, not its details, had been revealed, history might provide useful signposts of that end's approach. A thousand years after Augustine, the Nuremberg Chronicler was sure that the penultimate Sixth Age had already come so that the last must be at hand—instead Columbus discovered the New World!

The Divine Government of the world certainly gives unity to history; all significant historical events are reduced to effects of one single cause—God's Will. But the unifying principle cannot be demonstrated by history or deduced

from it, but has to be imported from without. It is apprehended by faith, not by reason. It has accordingly no place in any conceivable science of history, but belongs, where it began, in the pre-scientific era.

(2) *Magical Historiography: the Great Man theory*

A view of history that is still very respectable is even more ancient and more primitive than the theological. Perhaps before men conceived of gods at all, before indeed they began to make the distinction between external nature and human society that we find so convenient, certainly before any idea of order had been clearly formulated, savages and barbarians imagined nature peopled and actuated by powers or spirits as capricious as their own undisciplined wills. But they behaved and still behave as if they thought they could directly control these powers by appropriate acts—rites, incantations, charms—by magic. Magic is a way of making people believe they are going to get what they want, whereas religion is a system for persuading them that they ought to want what they get. To this extent magic is more primitive, if not older, than religion.

In the theocratic monarchies of Bronze Age Egypt, Mesopotamia and China, the king was not only the author of law and the sustainer of the social order, he was also regarded as responsible for the material welfare of the kingdom. By magic rites that he alone could perform, the Egyptian pharaoh ensured the rising of the sun, the annual flood of the Nile and in general the fertility of crops, herds and game. Indeed Frazer and others have made out a strong case for the thesis that the pharaohs and other Oriental despots, and the petty kings and chiefs of modern barbarian tribes have owed their authority precisely to this magical power of controlling nature.

It would be perfectly reasonable on such a theory to regard the king as the one efficient cause of all historical events. The ancient royal annals are thus the first expressions of the

still popular Great Man theory of history. If magic be logically prior to religion, the magical theory can easily be subordinated to the theological without losing its distinctive character. Priestly historians easily combined the two views. In the Sumerian King-list royal acts still form the content of history, but in the long run they are seen to be limited or determined by the overriding decrees of the gods. So in the Old Testament it is the king's good or evil deeds that are responsible for the successes or disasters of the people; rewards and punishments are meted out not only to the responsible agent but to his helpless subjects too.

The magical great man theory fitted well enough into the conceptual framework of a despotic monarchy. The funny thing is that it found a measure of acceptance among the Greeks who rejected theological explanations and had forgotten all about magic kings. Perhaps it was because they attached exaggerated importance to constitutions.

In Greece the dissolution of the static order of barbarian society (p. 27) had been rapid and violent, accompanied by economic disturbances and prolonged civil disorders. Fratricidal strife, *stasis*, came to seem the most terrible and all-embracing of calamities, the restoration of order and internal tranquillity, the most pressing need. To put an end to party and class conflicts many city-states chose law-givers from among the wise and respected citizens to frame a constitution for the future and legislation to rectify immediate evils. Solon at Athens and Lykurgos at Sparta are only the most famous of many such law-givers. The subsequent stability and prosperity of states were popularly attributed to the merits of their constitutions and these to the wisdom of their legislators. In most cities the legislator and his works enjoyed even more mystical reverence than is paid to the Constitution and the Founding Fathers in the U.S.A.

Hence in a later age when all the Greek city-states were manifestly sick, the philosopher Plato, unaware that these ills were only symptoms of organic disease in the Classical

economic system itself, dreamed of a 'philosopher king', an enlightened despot, who by imposing an appropriate constitution should heal the body politic. He was only repeating in a new form the sighs reiterated in Oriental literature for a righteous despot, a saviour who should rescue the people from oppression, a messiah. These sighs were answered by Alexander, Ptolemy Soter (Saviour) and Cæsar. With the return of despotism, the appropriate magical historiographical concepts were revived, enriched by Greek conceptions and sanctified by the theological history of the Christian church.

The Renaissance freed its Great Men from dependence on God's government. But even the French rationalists of the Enlightenment shared with the Humanists 'the naïve idea that political organization is deliberately designed by wise legislators', and wrote history with a view to converting existing autocrats into philosopher kings as in Plato's dream. The result is often termed the Catastrophic Theory of historical writing. For it makes 'religions and constitutions arise out of the void by a single act of will'. Its most extravagant expression is found in Pascal's celebrated 'Thought': *La face de l'univers eût été changée si le nez de Cléopâtre avait été plus court*.¹

The most celebrated exponent of the Great Man theory in modern times was, of course, Thomas Carlyle. For him 'Universal History, the history of what man has accomplished in this world, is at bottom the History of the Great Men who have worked here'. His extravagances did much to discredit the theory, but it still lives. In 1939 Sir Charles Oman drew up a list of some of the 'cataclysmic personalities', 'epoch-makers' who 'changed the course of history':

¹ 'The face of the universe would have been changed, had Cleopatra's nose been shorter.' *Pensées*, IX, 46. He means, of course, that had he not been entangled with the beautiful Egyptian queen after the murder of Julius Cæsar, Antony instead of Octavian (Augustus) would have been charged with the organization of a Roman Empire or would at least have shared it with his rival.

Gautama Buddha, Alexander the Great, Augustus Cæsar, Mohammed, Charlemagne, Pope Gregory VII, William the Conqueror, Napoleon, Peter the Great, Frederic of Prussia . . .

Plainly if such cataclysmic personalities have mysteriously emerged from time to time and have 'changed the course of history' and 'turned it into a new channel' any conception of an historical order must go by the board. That is, of course, no refutation of Pascal, Carlyle or Oman. And no historian will deny the far-reaching implications of events associated with the names just cited or with others excluded by Oman, like Columbus, Copernicus, Calvin, or just omitted like Archimedes, Descartes, Hegel, or Watt.

It is doubtless a valid objection to catastrophism that no two historians are likely to agree on a list of epoch-makers. But its fundamental defect, as hinted on p. 12, is that it ignores the social environment, the economic context and the technological basis from which the Great Men arose, in and on which they operated. Take Alexander. The whole development of trade and communications from the Bronze Age had been towards the political unification of an East Mediterranean world that was being increasingly knit together by commercial and even scientific intercourse (as illustrated by Herodotus). In this process men of Hellenic speech had played an increasing part since 600 B.C. Greek doctors, Greek craftsmen, Greek merchants and Greek mercenaries had travelled as far as Iran. Greek science and technology had outstripped Egyptian, Phœnician, Babylonian and Persian. The many ingenious contrivances—the rotary quern and the donkey-mill, tongs, shears, block-and-tackle—first traceable in Greece, by reason of their sheer efficiency must eventually have displaced the clumsy instruments that the Orient had inherited from the Bronze Age and kept unchanged. These factors and circumstances and others—for instance the Macedonian armament and tactics—were the co-operative product of many nameless individuals, not of Alexander. He made a brilliant use of the

opportunity. He advanced along the path history was already taking; he did not turn so much as follow the course of history.

Nor is the alleged cause adequate to the observed effect. Oman mentions as Napoleon's claim to be reckoned a 'cataclysmic personality' (a claim of which he is somewhat dubious) not his conquests—for they were ephemeral—but the Code Napoleon, the administrative system and the crystallization of nationalism in Germany, Italy, Britain, Poland and even Russia. Now Napoleon's conquests certainly were intended by the conqueror, and might quite plausibly be attributed to his 'military genius'. On the other hand the nationalist movements that frustrated or cancelled them were certainly not 'intended' by Napoleon. As to the Code, it is based on Roman law, revised and skilfully adapted to the property relations of bourgeois capitalism, by a very competent body of jurists. All that Napoleon can claim credit for is the decision to codify his Empire's antiquated and conflicting laws and perhaps the prudent selection of jurists to perform the work. Actually the idea had been already broached by the Convention.

In general it will appear that the historical results of the movements supposedly initiated by Great Men very seldom coincided with what they intended and often far surpassed in extension anything they could have foreseen. What, for instance, would Gautama the philosopher think of the idolatries of a Buddhist temple in Ceylon or the Thousand Buddhas in Java? Indeed it rather seems that the Great Man may act as the spark that releases the explosion. In one common use of the word no doubt the 'cause' of the explosion is the spark. But this is not the sense in which causality has proved a useful idea in science.

The fact is that the stream of history does often change its course. Sometimes, when the old bank is already breached, we can point to a great man who organizes the cutting of a section of the new channel thus started. His greatness

consists precisely in this. It may be amusing to speculate whether but for him, but for Alexander or Napoleon, say, the breach would have created just a backwater, not a channel. It is just as good a guess to assert with Engels 'in default of a Napoleon, another would have filled his place'. All such arguments are sheer metaphysics, by their very nature immune from the control of observation. The objective fact in history is that when a man was necessary, he was found.

To reject the Great Man interpretation of history, is not to belittle the significance of great men nor to deny the worth of biographical studies of their lives and deeds. In the transmission of our social heritage, imitation plays a much greater part than most of us recognize. From its earliest years the human child, like any young animal, is imitating, generally unconsciously, the actions and behaviour of its parents, brothers and sisters and companions. It is mostly by imitation that it learns to talk and to manipulate the simpler tools that everyone has to handle, and by the same process the child is building up its personality, its character. But one of the peculiarities of humanity is that the child, like an actor, can aspire to many roles; it can try to copy and model itself on father, mother, elder brother, postman, schoolmaster or any other acquaintance, or on each and all in turn. And this process does not really end with childhood but continues to some degree throughout life.

Now one of the advantages of literacy is that it enlarges enormously the range and variety of characters the literate can imitate and gives him a choice of models far beyond his own limited circle of acquaintances. Notoriously children repeatedly imagine themselves playing the roles of fictional or historical persons. A real history in which the characters do come to life in real surroundings provides a gallery of actors who may inspire our imitation. Men have lived, and do live, greatly, and it is one of history's functions to preserve this greatness and keep these personalities alive.

That will not be done by presenting them as Jack-in-the-boxes who emerge miraculously from the unknown to interrupt the real continuity of history. On the contrary a man 'comes to life' only in so far as the historical and social circumstances that moulded his character are also revived. His greatness will be all the better appreciated the more faithfully the discrepancies between his conscious intuitions and the consequences of his acts, as revealed to historical reflection, are exposed, and emphasized.

CHAPTER V

NATURALISTIC THEORIES OF HISTORICAL ORDER

(1) *Geometrical Historiography*

I CALL 'naturalistic' all theories that attempt either to depict historical events as instances of immutable laws, comparable to those of mathematics or astronomy, or to represent the historical order by an abstract but eternal scheme or chart. All such theories are inevitably as transcendental as any theological one. The order they assume is outside, and more comprehensive than, any and all of the events they purport to 'explain' or, more correctly, to describe. All implicitly deny the sort of time we really experience in life (what Bergson calls 'duration') and therefore real change. For the laws express uniformities, and only recurrent events obey them. Change must, therefore, be reduced to change of position in space. The only acceptable time is what is not only measured, but also defined, by repetitive, cyclical movements like those of a clock or similar mechanism.

The 'Order of Nature' as conceived by pre-Darwinian naturalists from Aristotle to Linnæus was a hierarchy of immutable species. The 'nature' of a tape-worm—or a man—was summed up in the generalized description of such a creature comprising the properties common to all as disclosed by a comparative study of a number of tape-worms—or men. Any deviation from that standard would be 'unnatural'. Till quite recently the reality of the physical world was supposedly dissolvable into an incredibly big, but yet definitely fixed, number of identical particles, moving perpetually in accordance with eternal mathematical laws. This reality would be exempt from time and change. Though its indestructible components might move about and combine in an immense, but always finite, variety of ways, the movements would never produce anything really novel for a being who knew all the constituent particles and their laws of motion; for every motion and combination would be predictable to such an observer—it would only be a question of working out an excessively large number of horribly difficult equations.

The rigid Aristotelian-Linnæan 'Order of Nature' was dissolved in 1859 into an evolutionary order in which formerly immutable species actually emerged from other species by a series of intelligible historical events. In my own day the eternal laws of mechanistic physics have similarly dissolved into statements of probabilities and their subjects into 'probability waves'. But those obsolete conceptions of order have continued to haunt historians since the days of the Greeks who invented them.

The Greeks seem to have emerged rather abruptly from barbarism to a new sort of civilization (p. 27). Perhaps they regretfully remembered the old static order that a new technology and a money economy had dissolved so rudely. Perhaps they felt the kinship between this lost order and the order expressed in the propositions of geometry that they had proved experimentally to be true always and everywhere.

Perhaps then the discovery that the apparently random movements of the heavenly bodies did in reality conform to just those geometrical rules, the eternal and universal validity of which they had established, suggested the further hope that the same eternal order lurked behind *all* the changing appearances of the world of sense.

In any case to the Classical philosophers geometry represented science *par excellence* and exhibited the ideal of order. To make a science of history then would mean in the last resort to geometricize it. And so, as Croce puts it, to the Greeks the power behind history 'was the natural law of the circle in human affairs'. That is presumably why Thucydides hopes (i, 22) that his history will be 'useful to such as desire to get a clear idea of events that have happened and of those that will someday, in the probable course of human affairs (κατὰ τὸ ἀνθρώπινον), happen again in the same or a similar way.'

Thucydides' words give the first hint of the theory of historical cycles, that history moves in circles so that events will recur and be followed by the same consequences.¹ If this were so, the utility of history would be obvious. A knowledge of the past could become foreknowledge of the future. But for the historians of Classical Antiquity all this remained a matter of faith. The Greeks and Romans had at their disposal fragmentary records covering only a few centuries of the history of a corner of the Mediterranean world. With such material they could not document the theory by constructing tables that should convincingly display the recurrence or similarity of events in several consecutive cycles.

But the theory was not abandoned even with the end of

¹ Plato affirms in the *Laws* (iii, 676, A-C): 'Since there have been cities and men have lived under civic constitutions, thousands and thousands of cities have come into existence and upon a similar computation just as many perished. They have in each case exhibited all kinds of constitutions over and over again. They have changed now from great to small and now from small to great and changed also from good to bad and from bad to good.'

Classical civilization and was revived after the Renaissance. Later European historians have loved to trace parallels between the histories of Athens or Rome on the one hand and those of Italian cities and even national states on the other. The rise and fall of Empires—Assyria, Babylon, Persia, Rome—Spain, France, Britain—have offered enticing fields for analogy-hunters. And for individual incidents of political history it is often possible to dig up quite plausible and indeed striking parallels between the ancient and the modern worlds. Philosophy and art are also susceptible to such treatment. But as soon as the historian extends his survey to embrace science, technology and even those aspects of strategy that are directly dependent upon technology the superficiality of analogies between several periods of man's history is laid bare.

In these domains it is perfectly obvious that history does not describe a circle but is a cumulative process. And that is really just as true of every aspect of history—of history as such. Compare the most advanced Bronze Age society, say the Ancient Egyptians, with Britain or any contemporary European nation. On the one hand a society, disposing only of man and ox-power, equipped mainly with stone tools and armed with costly but inefficient copper weapons, acts in a world effectively limited to the Nile valley and the coasts of Palestine and Syria; on the other hand a much denser population controlling electricity, steam, and water-power, equipped with mechanical tools of steel, armed with artillery, torpedoes, and flying bombs, takes the whole globe as its sphere of action. Evidently, then, any event in Egyptian history—even in the old-fashioned sense—is really related to an event of the same sort in modern history only in the way that a nursery tantrum is related to the rage of an adult.

Now the behaviour of a child of six is a very unreliable guide to the behaviour of a man of forty-five. No doubt in Meredith's novel the boyish act of Richard Feverel was a

presage of his reaction to a graver crisis in later life. But the symbolism of a work of art must not be mistaken for a scientific observation. In any case, admitting that the child is father of the man, Egyptian, Hellenic and British societies are not related as parents to offspring. They do not even belong to the same species or genus. Their relation is rather that subsisting between distinct genera in the same Order that zoologists have arranged hierarchically (say between tarsia, chimpanzee and man among the Primates, or between extant species and their fossil ancestors). Now a knowledge of the habits of the tarsia is not much help in forecasting the behaviour of chimpanzees, still less of men; a knowledge of the skeletal structure of the pliocene 'horse' (*Eohippus*) certainly helps us to understand certain peculiarities in the modern horse's anatomy, but would not enable us to draw up a standard diagram of a horse's skeleton by reference to a few bones only of the contemporary animal.

Today everyone agrees that history does not repeat itself at all accurately; events that have happened will in the probable course of human affairs not happen again in the same or a similar way. Recent versions of the theory of historical cycles have in fact abandoned any such naïve belief. To Spengler the several cycles in which he believes are to serve as 'instances' on which to build a comparative science of history. This can more conveniently be considered in the next chapter.

Since the sixteenth century, geometry and astronomy are no longer the sole or standard sciences. Men have found it convenient and profitable to isolate other aspects of external nature and have discovered in them orders, expressed in mathematical laws, that are serviceable in practice. Chemistry, biology, geology, meteorology, have thus been constituted, each revealing its own set of universal eternal laws. Hence it has been suggested that history might be subordinated to and made a branch of one or another of these special sciences. Laws established in the latter shall

prove to govern (or describe) human affairs too. Historians have in fact alleged that the course of history is determined by, or recapitulated in, the laws, or supposed laws, of geography, of physical anthropology or of political economy.

(2) *History as Geography*

As early as the fifth century before our era a Greek medical writer of the school of Hippokrates composed a treatise 'on the Influences of Atmosphere, Water and Situation' in which he proposed to account for the peculiarities of the Persians, the Scythians, the Kelts and other foreign nations known to the Greeks by the geographical factors named in his title. 'National characters' would be determined by the climate and resources of the region inhabited by the nation. Beyond this Classical authors could hardly go in default of detailed knowledge of the histories of the foreign nations in question.

Nineteenth-century Europeans had no such excuse. The authentic history of the Egyptians, Babylonians and Assyrians, was being revealed to them by archæologists; those of the Jews, Greeks and Romans long familiar were being supplemented by Arabic, Chinese and Turkish history; something was known of the past of subject African and American peoples. An Englishman, Henry Thomas Buckle, in particular was impressed with the idea that the great climatic differences between England, Greece, Palestine, Egypt, India and China might explain the no less startling differences in the histories of their inhabitants. In other words, history at least in its main outlines, might be the resultant of the geographical conditions of its theatre.

Buckle projected fifteen tomes to document his thesis. He produced only two introductory volumes containing some genial, or at least ingenious, illustrations of effects plausibly attributable to climate or other geographical conditions. He died too young to complete his work, but in fact neither he nor any other could have completed it. One reason is patent. The theory is incapable of explaining historical change.

For geographical conditions have remained relatively fixed and constant throughout historical times. They may to some extent explain the variety of human cultures but this is a less central issue for history than the changes in human culture.

Of course, the geographical environment has in fact exerted a profound influence on human societies and we are indebted to modern historical geographers for emphasizing this. The regularly recurring Nile flood not only fitted Egypt to support a large population, but also imposed a strong centralized organization to enable that population to take advantage of its fertilizing power and even spurred them on to that precise observation of the seasons that resulted in the invention of the calendar we use and the discovery of basic geometrical and astronomical facts on which Greek and later scientists built further. England's lead in the Industrial Revolution again is patently due in no small measure to her favoured situation for Atlantic trade and to her command of natural resources in the way of coal, iron and water-power.

All such advantages are parts of the 'forces of production' potentially at the disposal of a society. As Nature offers distinct human groups different opportunities, the several groups have been able each to make different discoveries and inventions. It was for instance reserved to the Indians of South America to discover the properties of rubber and to utilize them for inventions like the enema. But it is a distinctive feature in human culture that inventions and discoveries, which by their very nature could only be made by a single people in a unique environment, can be, and have been, transmitted to peoples who lacked the opportunity of making them themselves; such recipients have then sometimes developed and exploited the discovery far beyond the dreams of the original discoverers, as Europeans have with rubber.

On the other hand opportunity alone, natural resources by themselves, explain little or nothing. Look how long it was before the inhabitants of Britain began seriously to utilize coal

for fuel though its combustible properties had been known since the Bronze Age some three thousand years ago! The Chinese for their part with the same knowledge and even richer resources did not apply it till taught by 'Western Barbarians' from England and other European countries!

Another peculiarity of men is our capacity for adapting ourselves to live in any environment and under every climate by artificial devices, i.e., by culture. The nature of this culture is no doubt more or less conditioned by the environment to which it is an adaptation; the simpler a culture, the more conspicuously is it moulded by the environment. Among the Esquimaux architecture, clothing and the whole economy are exquisitely adjusted to Arctic conditions. But in the United States the visitor finds an extraordinarily uniform culture in the temperate east coast States, in the very continental Great Basin, in the deserts of Arizona and California and in sub-tropical Florida. Thanks to air conditioning, rapid transport and similar applications of science, Americans are enabled to wear the same clothes and eat the same food in all these contrasted regions.

Indeed men throughout their history have been experimenting with increasing success in adapting their environment—even the climate—to their habits and needs. The geographical background has played its part in history and will continue to do so, and the historian must take cognizance of its intervention. But it is still just the background, not a unique nor even a decisive governing factor. 'A road is adapted to the accidents of the terrain, but these are not the cause of the road and do not impose its direction' (Bergson). Indeed a road may overcome natural obstacles by tunnels and viaducts instead of dodging them.

(3) *Anthropological History*

It would have been quite in harmony with the outlook of the Classical World if Greek and Roman historians regarded the curious habits and institutions of Persians and Egyptians,

Kelts and Germans as well as their physiognomies and statures as expressive of their 'natures', of durable, innate and hereditary characters. Plato and Aristotle in particular asserted the innate superiority of the Greeks over such 'barbarians'. Aristotle's doctrine of 'natural slaves' indeed implies that some people were born to be just living instruments for the genial Greeks. Again in the nationalistic history of the Hebrews the privileged position of the Chosen People is presented as the result of Yahweh's Covenant with 'Abraham and his seed for ever'. Taken literally this must mean that the Jewish heritage was handed on automatically from parents to children by the physiological process of procreation, though how far its transmission was ever conceived as actually confined to this process is open to doubt.

The historical tradition of the modern west accordingly received the idea of racial superiority from its two main sources; the Greeks and Romans were destined by 'Nature', the Jews by 'God', to play a leading role in history. When in the fifteenth century Europeans were confronted with the strange peoples of Africa, the Indies and the New World, they naturally applied the conception. So the 'Bible Christian of European race inevitably identified himself with Israel obeying the will of the Jehovah and doing the Lord's work by taking possession of the Promised Land while he identified non-Europeans with the Canaanites destined by divine decree to destruction or to subjugation as hewers of wood and drawers of water' (Toynbee). Such conclusions, of course, would soothe any qualms of conscience about the extermination of American Indians and the enslavement of Negroes to replace them.

The vague theories and assumptions thus inspired and nurtured began to take more general and philosophical form in the historiography of the eighteenth century. The historical permanence of racial characters is for instance implied in Herder's phrase (1785): 'Chinamen will always remain Chinamen' (*Sinesen immer Sinesen bleiben werden*). After the

shock of the French Revolution the Romantics in Germany and their French and English contemporaries found the best counter-irritant to the revolutionary ideas of liberty, equality and fraternity in an insistence on the historical distinctness, individuality and continuity of the political and social habits and institutions peculiar to the several European nations (Fueter).

At first such historians 'naïvely took the modern linguistic groups which they termed "nationalities" as entities that had existed independently from all time and had influenced history'. The conceptions thus generated by the reaction from the Revolution and patriotic resistance to Napoleon were next given a veneer of scientific phraseology by amalgamation with the provisional conclusions of an infant anthropology, just emerging from the womb of pre-Darwinian zoology.

In the Linnæan classification the animal kingdom was crowned by the species, *Homo sapiens*, that should, like other species, be divisible into varieties or *races*. These would be as permanent and immutable as species were then held to be, but how human races were to be classified remained in doubt. Language as well as complexion or stature was seriously canvassed as a suitable criterion. But it was generally agreed that, whatever characters were attached to, or should define, a race, ought to be hereditary in the strictly physiological sense. If in the sequel anthropologists decided to adopt physical metrical qualities—stature, head-form, complexion, eye-colour or some combination of these for the definition of races, they did not thereby renounce the hope of identifying also mental qualities—instincts and tendencies—distinctive of each race and inherited in the same way as the more tangible qualities selected for more immediate study.

They recognized also that most existing European nationalities were not races in their scientific sense, but mixtures of races that had formerly existed independently in a purer

state. The counter-revolutionary doctrine of the Romantics could easily be brought into conformity with the anthropologists' conception by amateur historical propagandists. To an aristocratic French reactionary, the Comte de Gobineau, belongs the doubtful honour of formulating in this way the great 'Nordic Myth'. In his *Essai sur l'Inégalité des races humaines* (1853), de Gobineau identified the tall blonde type as the active and creative component in all European nations and even among their linguistic kinsmen in Hither Asia and India. His idea was given still more popular expression by another opponent of French democracy, de Lapouge, in *L'Aryen, son rôle social* (1870). Though adopted only late in Germany, the doctrine was there developed by anatomists, philologists, archæologists, historians and journalists to be a unifying principle in the Second Reich and the pretext for the Third.

As proclaimed by Hitler and prescribed to all history teachers by the Nazi minister, Frick, the thesis asserts that all progress in material civilization, art, science and political organization not only in Europe but even in the Bronze Age Orient and China and perhaps in America, too, has been due to the genius and creative energy exclusively inherent in the germ-plasm of the Nordic, Aryan or Germanic race, the naturally ordained *Herrenvolk*. From archæology and philology Frick extorts 'evidence' that the first civilized States in Egypt and Mesopotamia were founded by Nordic conquerors while later Aryan waves created the Hittite and Persian empires and the civilizations of Greece and Rome. Von Söden is at pains to prove that the non-Aryan Sumerians had no idea of Science, though they solved quadratic equations and recorded eclipses, whereas the early Aryan Brahmins' tedious treatises on sacrificial ritual are genuinely scientific!

Last century the Aryan dogma was received with acclamation by English historians like Carlyle. After all the Anglo-Saxons were Germanic and all the best people were Nordic

blondes. And the theory provided a neat justification for British imperialism as well as for the Germanic *Drang nach Osten*. In the present century it has been welcomed with no less enthusiasm in the U.S.A. as a scientific pretext for racial discrimination against Negroes and Jews. Its momentary eclipse during the temporary hostility between Germany and Britain and the U.S.A. does not, of course, refute the theory. During the last war Sir Arthur Keith produced a new version by simply substituting round-heads for long-heads; the British ruling class by 1915 was not composed of long-headed Nordics but of round-headed representatives of the Beaker race that might have been Aryan in speech when it invaded Britain about 1800 B.C. and that might have come from South Russia, the territory of a then respectable ally.

In the meantime de Gobineau's myth had been embellished by loans from popular conceptions of the Darwinian principle of 'survival of the fittest'. Nations or races are regarded as the equivalent of species. Warfare between nations is the counterpart of the 'struggle for existence'. Victory and conquest mean 'survival' and thus become the 'scientific' criteria of 'fitness'. War, the proper theme of history, is thus sanctified as a natural process, and conquest is scientifically justified. The apparently disorderly tale of massacre, rapine and destruction from this lofty vantage point assumes the grandeur of the Order of Nature. No wonder the theory was popular in imperialist States. 'The Celts drove out the bears and the wolves, the Anglo-Saxons, the Celts' is a fitting prelude to British history as written by a leading exponent of the art. The theory became discredited only when it was expounded still more logically by rival imperialists in Germany.

Apart from the confusion of nation with race, the equally unwarranted equation of race with species and a few other false analogies, this version of the racial theory reposes on an obsolete notion of the mechanism of evolution. A 'struggle for existence' resulting in the 'survival of the fittest' could at

best give a shorthand description of one way in which evolution came about. The phrase was never intended by Darwin to indicate the unique prescription for bringing it about. At the present time biologists would lay much less stress on the struggle and much more on harmony.

The balance of nature as revealed by a study of how animals and plants subsist together in the same region is no longer presented as the result of a competitive contest. On the contrary it seems that Darwin's contemporaries applied as an analogy to organic nature the prevailing (but erroneous) conception of economic order and progress being the product of a *laissez-faire* regime of unrestricted competition. Political economists then, seeing their own theory dressed up in zoological terms and used by naturalists, reimported it into human history as something invested with all the authority of a proved scientific hypothesis! The further development of biology has undermined its claim, but historians, not in touch with natural science, have been rather slow to recognize the theory's dethronement.

They have been still slower to see that the growth of another branch of biology, genetics, has annihilated the pretensions of racialism itself to be scientific. Stripped of the more glaring absurdities of Nazism and anti-Semitism the racial interpretation assumes that historical events are explicable in terms of the innate and hereditary qualities of races and of mixtures of such races. Races are assumed to be comparable to species and sub-species of wild animals or to pure breeds of dogs and sheep. By a study of the habits of such breeds you can learn how any flock as a whole is likely to behave and predict with some confidence the reactions of a dog of specified stock in most circumstances.

If human races were comparable to pure breeds of sheep, then a study of a race should lead to generalizations on which predictions could properly be based. But the comparison is not valid. For one thing human behaviour depends much less upon innate instincts and tendencies and

much more on habits acquired after birth by imitation and instruction from society than does that of any lower animal. It is almost impossible to determine how far an individual's character be due to nature, how much to nurture. But quite apart from this the doctrine of particulate inheritance, established by genetic research, is fatal to the racialists' case.

Modern genetics has shown that hereditary characters are transmitted not *en bloc* but separately. You may, for instance, have your father's hair but your mother's eyes. You may even inherit a character like hæmophilia that was displayed by neither of your parents, but came from a grandparent or remoter ancestor. Now in the case of a pure-bred strain particulate inheritance will not matter much; all the pure-bred beasts will possess the same genetic constitution and will therefore inherit and transmit the same hereditary characters. It is a collection of genotypes. But few, if any, human races approximate to this standard of purity. Men and women have been moving about the globe and interbreeding since prehistoric times.

Now the anthropologist can indeed by metrical and other characters distinguish a large group of people sufficiently alike to deserve the name of race; he can then study the character and behaviour of this race. But it will be a collection only of phenotypes (i.e., of creatures exhibiting the same characters), not of genotypes (i.e., of beings possessing the same genetic make-up); there is no guarantee, unless he has observed the group for five or six generations, that all its members have the same genetic constitution. He cannot therefore predict that the next generation will exhibit the same hereditary characters observed in this one. Still less can he infer that any child will exhibit all or indeed any of its parents' characters. It is not even legitimate to deduce that because a given individual exhibits the physical features, chosen as diagnostic of a certain race, he will also display any mental characters found by experience to be common in that race.

Group characters—call them racial, national or what you will—are certainly factors to be reckoned with in history. But they are only to a small and indefinable degree independent causes resulting from physiological inheritance, transmitted at procreation and explicable in biological terms. They are rather resultants of an historical process, transmitted socially by precept and example after birth and for that reason plastic and subject to social control. The change of collective habits within a single group is one of the most certain and significant facts of history. History has to explain it instead of finding in collective habits its own explanation.

(4) *History as a department of Political Economy*

As a third possibility history may be subjected to the eternal laws allegedly discovered by theoretical economists. The Italian historians of the Renaissance had tended to represent their characters as acting exclusively from motives of self-interest. Of Giucciardi, for instance, Montaigne could justly write: 'He never puts anything down to the score of virtue, religion or conscience, but always discovers for every action some ambitious motive or hope of gain'.

By exaggerating this tendency of Humanism and idealizing its product the bourgeois economists of the Industrial Revolution in England created a monster, Economic Man. From his supposed 'nature' they deduced 'eternal laws' that ought to govern the activities of all human societies in producing and exchanging goods as Newton's laws governed the motions of planets and billiard balls. Their operation, but for governmental interference as under Mercantilism,¹ would produce an order no less admirable than that disclosed in Newtonian mechanics.

Now as Bagehot² remarked, 'Euclid was the one type of scientific thought' to the pioneers of Political Economy.

¹ The system of State monopolies granted to private concerns for commerce.

² Bagehot, *Economic Studies*, p. 186.

They supposed, as Euclid did, that the laws or theorems of geometry were all logical deductions from a few self-evident axioms or *a priori* truths. So the 'laws' of Ricardo are presented as deductions from allegedly self-evident truths among which Economic Man formed the cornerstone. But of course historically geometry is no more a purely deductive science than physics or astronomy; it is based upon observations, and its theorems are demonstrated experimentally—by a 'construction'. No doubt, when experiment and induction have established a certain system of generalizations, these may become premises from which further principles may be deduced for experimental confirmation. That happens even in physics. But the assumptions of classical Political Economy were far from possessing this degree of coherence and inductive certainty. They were, in fact, hotly disputed between various schools, and the epitaph on Economic Man has recently been written.

Moreover, in so far as economic laws were genuinely scientific, i.e., were correct descriptions of how goods were actually produced and exchanged, they only applied to a given historical system. Like Adam Smith, Bagehot himself recognized that it was possible to go back to a 'pre-economic age' when the assumptions of political economy would be untrue to fact. Marx, of course, 'expressly denies that the general laws of economic life are one and the same no matter whether they are applied to the present or the past. According to him every economic period has laws of its own.' (Postscript to *Capital*, second edition.)

Adam Smith and his immediate successors were, in fact, trying to describe the workings of capitalism in the early days of the Industrial Revolution or rather how it would work if freed from the trammels of the older systems of mercantilism and feudalism still maintained by State intervention. They were in truth the academic champions of the rising class of capitalist manufacturers against the still dominant landed aristocracy. Some of their successors in

Britain and still more in America have championed the same class against the workers in trade unions and the socialist movement. All assume explicitly a free movement of goods and an equal mobility of labour and therefore tacitly modern means of transport and communications and legal freedom for workers and employers. It would be a manifest absurdity to apply deductions from such technological and sociological assumptions to, say, the early Middle Ages when land transport was confined to pack-horses and peasants were tied to the soil.

Hence the laws of political economy could not explain historical change. On the contrary the changes in economic laws constitute one of the most important groups of facts that history has to explain. The rise of political economy was beneficial to historical studies precisely because it drew attention to facts of this order. It helped to shake the prejudice of professionals that history should be exclusively political, military and ecclesiastical. Adam Smith himself had studied the development of economic conditions with the aid of original documents. Since the middle of last century economic history in that sense has been admitted as a recognized branch of historical studies. But it no longer pretends to be a deductive science illustrating the effects of eternal and universal laws, but has become a truly empirical discipline that describes how 'economic laws', understood as the generalized relations between the several parties in the process of production and distribution, have in fact changed in the course of recorded history. Thus understood in the form of Marx's Materialist Conception of History, economics provides one of the best clues to the recognition of a genuinely historical order.

HISTORY AS A COMPARATIVE SCIENCE

IF history be not amenable to the laws of any branch of natural science, it may yet become an independent science with its own laws. These certainly cannot be established experimentally and cannot therefore aspire to the rigour of mathematical formulation. On the other hand by comparative methods the descriptive sciences establish uniformities that are accurate enough for practical use.

Anatomy will serve to illustrate the sort of natural science that history might copy. No two human bodies are identical in all respects. But from the dissection of a reasonable number of corpses, comparing the results observed and ignoring exceptional peculiarities it has been possible to draw up a generalized chart of the human body, applicable to any member of the species, *Homo sapiens*. Most actual bodies approximate so closely to this ideal or specific form that by following the chart intelligently a surgeon is unlikely to damage his patient fatally.

The 'truth' and utility of such a specific type, be it noted, depends to some degree on the number of individuals or instances that have been compared in constructing it. An operation performed by a surgeon who had only dissected a single corpse or studied a chart based on a single specimen might be disastrous, at least, if the one instance previously studied had been 'abnormal'. An actual example from a branch of the same science will illustrate the danger of premature generalization.

In 1892 Dr. Dubois discovered in Java an extremely ancient and extraordinarily ape-like skull together with a thigh bone. This single fossil was then taken as the type of an extinct species or genus of Man, scientifically labelled *Pithecanthropus erectus*, or more popularly, the Apè-man of Java. Besides a number of striking peculiarities in form the

Java skull was distinguished from all known human skulls by its low capacity (corresponding of course to a small brain volume) midway between that of a chimpanzee and a modern man. Low cranial capacity was accordingly taken as a specific feature of *Pithecanthropus*.

In the last ten years two more fossil skulls of the same sort of age have turned up in Java and about a dozen near Peking. All agree with Dubois' original specimen in most of its peculiarities of form. But the cranial capacity varies surprisingly; in some it is less (775 cc.), in others more (up to 1,350 cc.) than in the first. The general description of the species (or genus) has therefore to be modified drastically in this respect—a very important respect since cranial capacity limits the size of the brain. The specific description based on a single instance has been falsified.

If human history could be cut up into a number of consecutive or parallel slices, each might be treated as an instance or example of generalized history. By comparing them we should discover recurrent features common to all the instances examined. Then, making abstraction of or ignoring differences, we should be left with a general chart or specific description of abstract history.

If the theory of historical cycles had been true, each cycle could serve as an instance as each generation of fruit-flies in a laboratory serves as an instance of the life-cycle of this species of insect. By comparing the growth, maturity and decline of the insect over several generations, the entomologist discovers general laws describing the life cycle of the species as a whole and of each individual member of it. So the historian comparing successive cycles, would find out laws descriptive of the changes to which each historical unit should be subject.

The Classical authors who invented the theory could not even attempt this induction for lack of instances. Modern writers, disposing of ampler data, have made the venture. The latest, most penetrating, most erudite and most brilliant

of such efforts is Spengler's *Decline of the West*. From an impressive fund of knowledge interpreted with genial insight he illustrates detailed correspondences between his several cycles in art and philosophy as well as government and law. With surprising confidence in a year of national defeat he prophesied the temporary salvation of the West by a revived Cæsarism—a Germanic totalitarian world-state foreshadowing even in detail that New Order which Herr Hitler tried in 1939 to impose on a curiously ungrateful world.

The experimental refutation of Spengler's conclusions in the defeat of Hitler in 1945 may be taken as further justification for the rejection on theoretical grounds of Spengler's basic assumption as argued on p. 46 above. As there are no cycles, there can be no Spenglerian instances and therefore no inductive generalizations therefrom.

A more comprehensive, and more ambitious project for a comparative science of history has been undertaken with still greater erudition by Arnold Toynbee. It is to be expounded in a dozen bulky volumes of which only six are at present available. He rejects the cyclical conception. For Toynbee history moves not along one circular path but along several parallel or divergent routes. On these he can recognize no fewer than twenty-one instances or 'separate representatives of a particular species of society' which he terms 'civilized society'. Of these eight (the Egyptian, Sumeric, Minoan, Sinic (Chinese), Indus, Indic, Mayan and Andæan) are 'unrelated and belong to the infancy of the species'. The rest—Iranic, Hellenic, Western Christian and so on—are in one way or another descended from one of the foregoing. In each of the units thus isolated (in so far as evidence is available) the author discerns the same phases occurring in the same relative positions in the life cycle of each—a 'Time of Troubles', a 'Universal State', a '*Völkerverwanderung*', and so on. The same sort of parallelism is traced in the lives of the great men who appear at the appropriate junctures in each civilized society that has left decipherable records.

It would be impertinent here to attempt either an appreciation or a criticism of a great unfinished work. Nor need we ask whether, in view of the case of *Pithecanthropus*, a specific description based on only twenty-one instances (of which six are known only in fragments) is likely to be reliable. The method's credentials, however, demand examination. Is it legitimate or profitable to carve history into bits, label them 'civilizations' and then treat them as distinct and independent instances of general laws? Are the bits thus isolated really separate representatives of a species from a comparison of which an inductive description can be constructed like the anatomical chart of the human body based on a dissection of a number of distinct bodies? Are Toynbee's 'civilizations' not rather like the several limbs or organs of one such body? If so, would the specific description or general diagram of a generalized toe (to take the most favourable instance) composed only of the features common to all ten toes, be really helpful for an operation on the left big toe?

Now Toynbee admits that few, if any, societies have developed in complete isolation. Long before written history begins anywhere, archæology can demonstrate the interchange of materials between widely separated groups and the probable diffusion of processes and inventions. If it be only highly probable that the wheel was diffused from some undefined centre between China and Britain three thousand years ago, it is undeniable that the steam-engine was diffused from Britain over a much wider area over a century ago and that the British had previously learned tea-drinking from China and tobacco-smoking from North America. Still less can Toynbee or any one else deny the transmission of techniques and ideas from past civilizations to later ones. In reality the units Toynbee isolates and any other possible units are interrelated by mutual debts.

To justify the isolation of the units or instances Toynbee has to minimize the indebtedness that actually relates them.

'The outstanding triumphs of diffusion', he asserts, 'are mostly trivial and external and few of them intimate or profound; for the process of irradiation and mimesis through which diffusion works in human affairs is vigorous and effective in inverse ratio to the value of the social properties that are conveyed by it.' In similar terms he disparages the techniques of iron working and writing that were admittedly carried over from Hellenic Society (the Roman Empire) into Western Christendom.

In brief, to legitimize the comparative method and make its inferences plausible Toynbee, like Spengler, has to ignore just those human activities that in history are unambiguously cumulative and revolutionary. Any comparative theory by its own presumptions is doomed to make precisely this abstraction. The theorist may compare on the same plane the foreign policies of Thothmes III, Trajan and Frederic. He can debate the relative merits of Akkadian, Zoroastrian and Roman Catholic rituals, Egyptian, Greek and Provençal love-lyrics, or New Kingdom, Byzantine and Victorian portrait painting, and, in default of any universally recognized standards, no two theorists will arrange such products in the same order of merit. No such differences of opinion can arise with regard to the astronomy of Bronze Age Babylonia, Hellenistic Greece and seventeenth-century Britain. The shaduf, the Persian wheel and the electric pump are not three instances of one species of water-raising appliance, but three species in an evolutionary hierarchy. The position of each in the series is given objectively by the efficiency with which it performs its recognized function, and this can be evaluated with mathematical precision and impartiality.

In abstract theory an academic historian may contend that, compared with the heroism of warriors or martyrs, the rapture of poets or painters and the visions of prophets and statesmen, electric light, the foods produced by the application to farming of chemistry and genetics, and distributed

by motor-lorries and steamships, the printing press, sanitation and scientific medicine are 'trivial and external' rather than memorable. But for such applications of science and technology the academic theorist, if alive at all, would not be expounding history to a world audience in twelve volumes, nor indeed founding a school at all, and his theory would not be an historical event in the sense explained on p. 13. To that extent at least technology does determine history. But its development is a unique self-determining process subject to no external transcendental laws as we saw in Chapter II. Accordingly the same conception must be applied to history as a whole.

On the other hand the possibility of producing comparative theories at all should draw attention to a significant aspect of history. If history discloses the continuous progress of the human species as a whole, it none-the-less discloses the stagnation, decadence and extinction of many of the societies into which that species has been or still is divided. Otherwise the theory of cycles could never have seemed plausible for an instant.

Even today we know societies in Australia and Siberia that have never advanced beyond the Old Stone Age in economy and equipment and others in the Pacific that are in these respects still neolithic. The Indus civilization of the third millennium B.C., represented by vast buried cities at Mohenjo-daro, Harappa and elsewhere in Sindh and the Punjab, disappeared so completely that its very existence was unknown till excavators' spades began to lay bare its imposing ruins twenty-five years ago. Of the Mayas in Central America only a few poor, backward and Catholic Indians survive among the jungle which hides the remnants of populous cities and monumental temples where human victims were once sacrificed by hundreds to now forgotten gods.

Nilotic civilization developed rapidly for a few centuries after 3000 B.C. But after the Pyramid Age hardly any really

progressive and enduring innovations were made in administrative or economic organization, in architecture, sculpture or painting, in mathematical and medical sciences, in technology, nay, in the forms of the tools themselves. Egyptian civilization had lost its creative power before the government passed into alien hands—to Persians, Greeks, Romans, Arabs. After three thousand years' continuous use the old hieroglyphic script fell into desuetude, and the ancient native cults were replaced by Judaism, Mithraism, Christianity and Islam. In Mesopotamia history discloses a somewhat similar arrest and decline from the end of the late prehistoric period of brilliant growth to the last tablet in the native cuneiform script about 20 B.C. and the final collapse of the irrigation system on which civilized life was based after the Mongol conquest in 1258.

Evidently progress is neither automatic nor inevitable. There are many paths in history; some lead to dead ends, some to annihilation. It is just the same in natural history as Julian Huxley admirably shows in his recent book, *Evolution*. On the other hand in human history there are more grounds than in natural history for doubting whether any really progressive invention, made by a society that has gone up a blind alley, has been lost to humanity. Mesopotamian civilization certainly became extinct. But it has long been known that we owe to it our division of the circle into 360 degrees and of the day into twenty-four hours, as well as a number of legal conceptions and theological dogmas of more dubious value. During the last fifteen years more intensive research has established many other unacknowledged debts—data for the prediction of eclipses, methods for the solution of quadratic equations, the substance of Pythagoras' theorem . . . transmitted through the Greeks of the Classical age to our own. Indeed, Babylonian science survived long enough for Hellenistic mathematicians to borrow from it actual examples of problems that were later copied in European arithmetic books of the Middle Ages and to

adopt the Babylonian system of sexagesimal fractions that inspired the invention of decimal fractions in the sixteenth century.

These and like debts have now been acknowledged as a result of very intensive and prolonged historical research aided by exceptionally favourable circumstances such as the use of durable clay tablets as writing material. Many others remain to be discovered, still more can never be established owing to the irrevocable loss of the records. But they are just as real and necessary contributions to, and foundations for, twentieth-century civilization.

CHAPTER VII

HISTORY AS A CREATIVE PROCESS

THE German idealist, Hegel (apart from some anticipations in the Italian Vico), was the first to announce a view of history such as that to which the foregoing survey has led. He loudly proclaimed the reality of change, of becoming, and of nothing else, and promised to present history as a rational and orderly but creative process of the emergence of new values. But he belied his own promises by reimporting into history an external theological order under a new name.

Hegel claimed that history just reveals the self-realization of the eternal Absolute Idea in accordance with the transcendental laws of pure logic, so that the process instead of creating anything novel really worked inevitably to a predetermined end. (Thus the final result of political history could only be a constitutional monarchy as actually realized in Prussia in 1868!) Hegel proclaims that 'human history is a process of evolution which by its very nature cannot find

intelligible finality in the discovery of any "absolute truth". But in fact his system 'laid claim to being the very sum total of just this absolute truth!' (Engels, *Anti-Duhring*, 51.)

It remained for Marx and Engels to strip this grand conception of its theological mysticism and to formulate as Dialectical Materialism a view of history freed from transcendentalism and dependence on external laws. 'For dialectical philosophy nothing is final, absolute, sacred. It reveals the transitory character of everything and in everything; nothing can endure before it except the uninterrupted process of becoming and passing away, of endless ascent from lower to higher. And dialectical philosophy itself is just the reflection of this process in thinking brains.' (Engels, *Ludwig Feuerbach*, 22.)

Accept this view of history as a creative process; admit that it is not subject to any external laws imposed from without. It will not follow that the process is disorderly, that a science of history is impossible, that rational judgement is excluded. Spatial arrangement of mutually exclusive points is not the only sort of order; the regularity of clock-work is not the sole criterion of an orderly process. A portrait is an orderly composition though no analysis into regular geometric figures will exhaust the order apprehended by the beholder. The growth of a living creature is an orderly process; we can grasp the interconnections between all its stages as well as the coherence of all the creature's members. The constant decay and renewal of the component cells, the creature's spasmodic movements, might indeed seem chaotic on a cursory glance through the microscope; the static order of geometry is in fact missing. Profound examination reveals the order of life.

Now if history be not following a prescribed route but is making its path as it proceeds, the search for a terminus is naturally vain. But a knowledge of the course already traversed is a useful guide to the probable direction of the next stage of the way. 'No one, not even the artist, can

foretell precisely how the finished portrait will look. But it will be determined by the sitter, the paints used and the character of the artist' (Bergson). These data suffice to allow the patron to choose which artist to commission to obtain the sort of likeness desired—but do not guarantee satisfaction. Knowing the pedigree and watching the growth of a colt the breeder can foretell with some degree of confidence what points the animal is likely to exhibit and what 'form' it may be expected to show when grown.

The order of history is much more subtle than that of any painting, the integration far more complicated than in any living creature. No general formula nor abstract chart will disclose that order fully; that can only be reproduced in the concrete whole of history itself which no book and no library of books, however vast, could contain. Fortunately some aspects of the historical process exhibit its order more simply than the rest, and Marx pointed out that just these aspects are the most decisive.

In human anatomy the chart of the skeleton is easier to master than those of the muscles and blood vessels, to say nothing of the nervous system. In the bony frame an order can be discerned though it can only be fully understood when the bones are clothed in flesh and animated with conscious life. The skeleton does in fact sustain the flesh, muscles, vascular system and brain. It does not explain them—the reverse would be nearer the truth—yet without it the rest could not exist nor be what they are. And to a limited extent the bare bones give clues for the reconstitution of the softer parts too. From the articulations and ligament-attachments on the fossilized bones of Neanderthal man, Boule ventured a reconstruction of his musculature. But admittedly the reconstruction is tentative and was only possible because of the similarities between Neanderthal man and modern man whose muscles we know from direct observation.

Now the simplest aspect of historical order is that used as an illustration in Chapter II, the progressive extension

of humanity's control over external nature by the invention and discovery of more efficient tools and processes. Marx and Engels were the first to remark that this technological development is the foundation for the whole of history conditioning and limiting all other human activities. For to be able to act at all men must live. But inventions and discoveries, like those mentioned in Chapter II, are the 'means of production' at the disposal of society and constitute the equipment that enables human beings to procure food, warmth, shelter and whatever else they find from time to time necessary for life and the reproduction and multiplication of our species. The Materialist Conception of History goes on to assert that the possibility of historical change depends upon the changes in this equipment for living, the means of production.

From this a further step follows at once. A new tool is doubtless the invention of an individual. But as explained on p. 13, the manufacture and use of a tool is normally a social affair in which a number of individuals must participate. Indeed, the whole productive activity in which tools or machines are used for the provision and distribution of food, warmth and other human needs in all known societies and at every period of recorded history is and has been social involving the co-operation of smaller or greater numbers of people. Whether you like it or not, you must secure the co-operation of your baker and through him of an indefinite chain of other persons right down to the wheat growers of Manitoba and Iowa if you want a loaf. Just so the Old Stone Age hunter in glacial Europe had to join with the rest of his clan in the collective drive if he wanted mammoth meat for dinner.

Incidentally these relations can be quite impersonal. Your baker may be a friend or a member of the same church but essentially he is a purveyor of bread and you are his customer. Fundamentally the relation centres around the loaf and anyhow it is the sole link between you and the quite

unknown farmers of Iowa. The relations established between men in procuring food and other goods and dividing up the product are termed relations of production.

The Old Stone Age hunter required the help of his clansmen in the mammoth-hunt, if only because the equipment of those days was so feeble that an isolated individual could not do much against a herd of mammoths. With a modern rifle a single European can easily shoot an elephant and is in this respect more independent than his palæolithic precursor. But he has purchased this independence in hunting by depending upon all the people engaged in producing and distributing sporting rifles and ammunition. He has had to enter into impersonal and involuntary relations with all these unknown people to obtain the tool which alone renders him as hunter superior to the Stone Age savage.

In 1859 Marx summed up these two points as follows: 'In the social production of their livelihood men enter into definite relations that are necessary and independent of their wills; these relations of production correspond to a definite stage in the development of their material forces of production. The sum total of these relations of production constitutes the economic structure of society, the real basis on which is reared a legal and political superstructure and to which correspond definite forms of social consciousness. . . . With the change in the economic foundation the immense superstructure in its entirety is more or less rapidly transformed. In considering such transformations a distinction should be drawn between the material economic conditions of production that can be determined with the precision of natural science and the legal, political, religious, artistic, philosophic, or in a word, ideological, forms under which men become conscious of the conflict between the means of production and the relations of production.'

Thus Marxism goes on to assert that all constitutions, laws, religions and all other so-called spiritual results of

man's historical activity are in the long run determined by the material forces of production—tools and machines—together with, of course, natural resources and the skills to operate them. Thus the Materialist Conception offers a clue for the analysis of the data of history and opens up the prospect of reducing its phenomena to an easily comprehensible order.

This clue is not to be used slavishly. A quite superficial survey of history would disclose tragic discrepancies between progressive technology and moribund political or religious institutions. In the first place 'at a certain stage in their development the productive forces of society come into contradiction with the existing relations of production, i.e., in legal terms, with the property relations, within which they have worked before. From forms of development of the forces of production, these relations turn into their fetters.'

For example, in the Bronze Age when the only metal available for efficient tools was costly copper or more costly bronze, and the productivity of labour was very low owing to the scarcity of efficient tools, each individual peasant, practising subsistence farming, could produce only a tiny surplus above what was needed to feed himself and his family. Only by combining and concentrating these little surpluses could a fund or capital be accumulated sufficient for the importation of the requisite metals (i.e., to support the miners, smelters, smiths and transport workers who were not growing their own food), and for reproductive works. The requisite concentration was satisfactorily secured under the ancient Oriental monarchies where the divine king and a very small class of noble land-owners appropriated as taxes and rent the tiny surpluses produced by hundreds of thousands of peasants. Such property relations provided suitable conditions for the development of production until a cheaper industrial metal, iron, was made available.

Then the old relations of production became unnecessary and obsolete since a smaller surplus would suffice to procure the metal tools and their abundance at the same time augmented the productivity of labour and so the surplus that each could produce. But in Egypt, for instance, the Bronze Age system, consolidated over two thousand years, was rigidly established and persisted and with it the tools and processes appropriate to the old costly material. So four centuries after the Iron Age had opened there we find the Egyptian smith still using the clumsy tools of the Bronze Age (a stone hammer held in the naked palm, tongs in the form of enlarged tweezers and so on) when his fellow workers in Greece had long been using quite modern appliances (specialized iron hammers with wooden handles, hinged tongs, metal anvils). Today the neglect or suppression of inventions, the failure to use the full productive capacity of existing plant, the actual destruction of crops have been regarded as symptoms or consequences of a similar contradiction between the forces of production and the relations of production.

In such circumstances to allow of further technical progress, to break the fetters in fact, Marx and Engels held, a revolution was necessary. It may be necessary in the sense of desirable or essential for further progress, but it is not inevitable. In Mesopotamia, Egypt and China theocratic despotism, relations of production appropriate to the productive forces of the Bronze Age, persisted into the Iron Age. They effectively fettered the exploitation of the new forces represented by iron with the result that technology also stagnated. The whole life of those societies stagnated too; the first two eventually perished altogether. From a Marxian analysis all that one can deduce is the dilemma—revolution or paralysis. History does not disclose an unfaltering march to a predetermined goal. The materialist conception implies that, if science and technology are to progress, the relations of production must be adjusted



DEVELOPMENT OF THE METAL INDUSTRY No. 3

METALWORKERS IN THE SIXTEENTH CENTURY A.D.

Sixteenth-century metal-works (woodcut) from Agricola, de re Metallica

(By courtesy of the British Museum)

accordingly. If not, scientific and industrial progress will be also arrested and therewith all the activities comprised in the ideological superstructure will be paralysed.

But secondly the adjustment between the ideological superstructure and the relations of production is, in its turn, by no means automatic. Yet such a superstructure—institutions, faiths, ideals—is actually indispensable for the productive process itself. The institutions through which men's necessary co-operation in production has been secured and made effective have not apparently owed their efficacy to a general and spontaneous recognition of their biological utility or economic advantageousness. They have always been sanctified by ideologies and embellished with symbolic trappings.

For instance it seems certain that the pharaonic monarchy in Bronze Age Egypt worked so smoothly and lasted so long not only, nor even primarily, because the cultivators recognized that the pharaohs' government did actually preserve them from enemies, advise them profitably when to plough and sow, secure the maintenance of irrigation canals and organize the supply of metal and other necessary imports, but rather because they fervently believed that the pharaoh was a god and felt towards him a genuinely religious loyalty and devotion.

Relations of production must thus be lubricated with sentiment. To provide motives for action they have to be transformed in the human mind into ideas and ideals. When thus transmogrified, they acquire a certain independence of historical reality. Doubtless no ideology, no system of ideas nor faith can permanently survive unless in harmony with the productive forces and compatible with their development. Otherwise the society will decay and with it will perish the ideals it cherishes. The gods and religions of the Babylonians, Mayas and Aztecs have now vanished.

But the reckoning may be long delayed. The relation of

ideology to the productive forces may be rather remote. 'We make our own history,' wrote Engels, 'but under very definite presuppositions and conditions. Among these the economic ones are *finally* decisive; but the political ones, etc., and indeed the very traditions that haunt the human mind play a part, though not the decisive part.' (1890, Block, S.W., 382.)

In the meantime ideologies, religious creeds, national loyalties and so on may very seriously impede progress even in science and technology, while if the fetters on progress constituted by obsolete property relations sanctioned by law and custom and sanctified by mythology or religion are to be removed, appropriate slogans and banners are requisite. History bristles with examples of the hinderances imposed by superstitions on science and its applications; the Church's ban upon the Copernican theory and Islam's opposition to printing are notorious cases. Similarly the development of bourgeois capitalism was handicapped by the ecclesiastical prohibition of interest and many practices and institutions of the Catholic Church. It is therefore comprehensible why the battle for the replacement of the feudal economy by the modern capitalistic one and incidentally for the liberation of scientific research should have been fought and won first on the religious field in the Reformation.

Accordingly, 'far from denying the significance and role in history of social ideas, theories, views and political institutions Historical Materialism emphasizes the role and importance of such factors in the life of society, in its history. But it distinguishes between different kinds of ideas and theories. There are old ideas and theories which have outlived their day and serve the interests of moribund forces in society. Their significance lies in the way they hamper the development and progress of society. But there are new and advanced ideas that serve the advanced forces of society. Their significance lies in the fact that they facilitate the progress of society, and is the greater, the more accurately

they reflect the needs of development of the material life of society. New social ideas and theories indeed arise only after the development of its material life has set new tasks before society. But once they have arisen, they become a most potent force which furthers the material progress of society. It is precisely here that the tremendous organizing, mobilizing, and transforming value of new ideas, new theories, new political institutions becomes manifest.' (J. Stalin, *Dialectical and Historical Materialism*, pp. 16f.)

Within these two limitations historical materialism serves to throw into relief the underlying order of the historical process, which is essentially a process of change. No doubt historical change in general can in the last resort be analysed into, and presented as, creative acts of individual wills just as progress in science and technology can be resolved into inventions and discoveries made by individual scientists and craftsmen (p. 11). The popular biographical forms of history present these creative acts as the resultant of motives or a conflict of motives.

Historical materialism does not assert that the only motives for men's acts are economic self-interest, more or less enlightened; 'Economic Man' was a monstrous abstraction conjured up out of the imaginations of Italian humanists and early English political economists (p. 57). Still less does it admit that motives arise out of the void like the spirits of magic. Yet it need not take sides in the unmeaning controversy between free will and predestination invented by theologians.

Marxian history is not really very interested in motives. Motives are in fact hardly capable of genuine historical study. Does anyone know today, eight years after the event, exactly which motives actuated Chamberlain in signing the Munich capitulation—personal ambition to become *der Führer Gross-Britanniens*, personal fear of the revelation of the inadequacy of his preparedness, patriotic fear of the disruption of the Empire, class fear for the plutocracy and

oligarchy in the event of a war against their protagonist, and in alliance with Soviet revolutionaries, a genuinely humanitarian desire to avoid war as the worst of all ills? What hope has any historian of answering a similar question with regard to an act performed six hundred years ago? I have just read four mutually contradictory accounts of the motives and intentions underlying the economic policy of Edward III by as many leading authorities—Cunningham, Stubbs, Tout and Unwin.

In any case, historical acts, like inventions, are determined in two senses. First, to use Engel's¹ words, 'Men make their own history, but always under very definite circumstances which condition it and on the basis of relations already existing. Among these the economic relations, however much they may be influenced by political and ideological ones, are *ultimately* decisive.' Lenin² admits that 'all history is made up of the actions of individuals who are undoubtedly active figures'. We may conceive these actions as the outcomes of decisions and choices. But these choices are strictly limited by circumstances of which the most rigid and tangible are the material instruments and processes available at a given time for executing decisions. Napoleon was not embarrassed by having to decide whether to invade England by a tunnel under the channel, by submarines, by air, or by surface craft. Hitler could envisage all four possibilities.

Here is a first limitation. As Marx says, 'Men are not free to choose their productive forces; for every productive force is an acquired force, the product of former activity' (i.e., a discovery or invention). 'The productive forces therefore are the result of practical human energy, but this energy is itself conditioned by the circumstances in which men find themselves, by the productive forces already won, by the social formation which existed before they do and

¹ Letter to Starkenberg, 1894, *Selected Works*, 392.

² *Collected Works*, xi, 620.

which they do not create; for it is the product of former generations. Because of this simple fact that every successive generation finds itself in possession of the productive forces won by the previous generation to serve it as the raw material for new production, a connexion arises in human history, a history of humanity takes shape which is all the more a history of humanity since the productive forces of Man, and therefore his social relations, have been extended.' (Letter to Annenkov, 1846, *S.W.*, 373.)

Of course these remarks hold good with appropriate adjustments also of political and religious ideas and institutions, forms of artistic expression, language itself, habits of behaviour, appetites. Even a Luther starts from the ideas transmitted to him through the Holy Scriptures with all the scholastic commentators on the one hand and from the rites and institutions of sixteenth-century German Catholicism on the other. A Shakespeare uses the distinctive idiom produced by five centuries of usage since the Conquest, conventions worked out in earlier dramas from Aeschylean tragedies to miracle plays, a stock of themes of equally hoary pedigree and so on. Any individual decision is determined by habits of action formed by former decisions and by conscious or unconscious imitation of the actor's society which today includes all the historical and fictional characters revealed to him by reading, the cinema and so on. So all 'acts of will' are related to, and conditioned by, all previous volitions both by the individual agent and by all other individuals who have contributed to the formation of the historical environment and the society to which he involuntarily belongs.

Secondly, an isolated act performed by an individual in secret and alone in his closet and kept there has no more historical significance than an invention buried, unused and unpublished, with its inventor. History is concerned only with acts that are socially effective. Hence, as Lenin says (*Collected Works*, xi, 439), 'the real question in judging the

social activity of an individual is, "What conditions ensure the success of this activity? What guarantee is there that this activity will not remain an isolated act, lost in a welter of contrary acts?"'

History books are crammed with records of unsuccessful attempts, frustrated efforts, vain endeavours. Any one who engages in social action even in an athletic club, a parish council or a trade union branch knows how difficult it is to achieve any result and how often that result disappoints the hopes and expectations of its sponsors. In the larger domains of city, national and international organization the difficulties are proportionately greater. And in such spheres the disparity between intention and result is liable to assume tragic proportions. The disastrous effects of prohibition in America were the very reverse of the intentions of those who laboured very hard to introduce 'a great reform' and of the voters who supported them. The vast majority of them were sincerely anxious to reduce intoxication, albeit often only in other people and for base motives; none wanted to make profits for gangsters, to put a premium on the sale of poisons, or to encourage drinking among adolescents, but that is what they achieved!

'History makes itself in such a way that the final result always arises from conflicts between many individual wills. Thus there are innumerable intersecting forces, an infinitude of parallelograms of forces which give rise to one result—the historical event. This again may be viewed as if it were the product of a power that, taken as a whole, works unconsciously and without volition. For what each individual wills is obstructed by everyone else, and what emerges is something that nobody has willed. Thus past history proceeds in the manner of a natural process.' (Engels to Block, *J.W.*, 382.)

'The conflict of innumerable wills in the domain of history produces a state of affairs entirely analogous to that observed in the realm of unconscious nature. The ends of

action are intended, but the results which follow from those actions are not intended or, where they do seem to correspond to the intended end, they ultimately have consequences quite other than those intended.' (Engels, *Ludwig Feuerbach*, 457.) 'Men make their own history but not yet with a common will, in accordance with a collective plan, or even in one definitely constituted society. Their efforts clash and for that very reason all such societies are governed by *necessity* which is supplemented by and appears under the forms of accidents.' (Engels to Starkenberg, *S.W.*, 392.)

One can, of course, imagine, as Engels does in the last quotation, a wholly rational historical order from which class conflicts and contradictions between productive forces and property relations had been eliminated, leaving a society in which men consciously and voluntarily co-operate in a collective effort to extend further the productive forces and the creative activities these liberate. Such an order would not be static but consciously and intentionally creative. It might then be regarded as the true beginning of rational history. And so Marx calls all that precede it 'chapters in the prehistoric stage of human society' (in the Preface to his *Critique of Political Economy*, *S.W.*, 357).

Such an order, however, is not the reality behind recorded history like Plato's Ideas, Augustine's City of God, or Hegel's Absolute. It is doubtless a fitting goal, but not one to which history leads fatally and inevitably. There is no guarantee that our society will not vanish like the Mayan or become fossilized like the Chinese, no guarantee indeed that *Homo sapiens* will not become as extinct as *Archaeopterix* or *Hipparion*.

The observable historical order in any case has not attained such conscious rationality. On the other hand the 'laws of motion' that Marx and Engels discovered in history do not, as some passages in their writings might suggest, describe a mechanical order in which the only change permitted is change of position in space. Such was indeed the

order of nature demanded by Laplace and Huxley and other leading scientists last century. It is no longer demanded even by physicists today and, if it were, would be useless for history.

The analogy between what we now regard as statistical laws describing the behaviour of vast numbers of particles in the mass and historical laws is not helpful. Putting ourselves, the agents of history, in the place of the particles, we could hope for but little guidance as to the events that concern us practically. Nor is such a mechanistic conception a legitimate inference from Darwinism and acceptable to biologists today. In fact it would deny the reality of historical change in precisely the way Engels blames Hegel for doing.

The laws of history are accordingly just short-hand descriptions of the way in which historical changes do come about. They do not cause or govern those changes. They serve to limit the range of incalculable factors without excluding such altogether. Marx himself in 1871 insisted that 'World history would be of a very mystical nature if "accidents" played no role. The accidents fall quite naturally into the general course of the development and are compensated by other accidents. But acceleration and retardation are very much dependent upon such accidents which include such an "accident" as the character of the people who stand first at the head of the movement.' (*Letters to Dr. Kugelmann*, 125.)

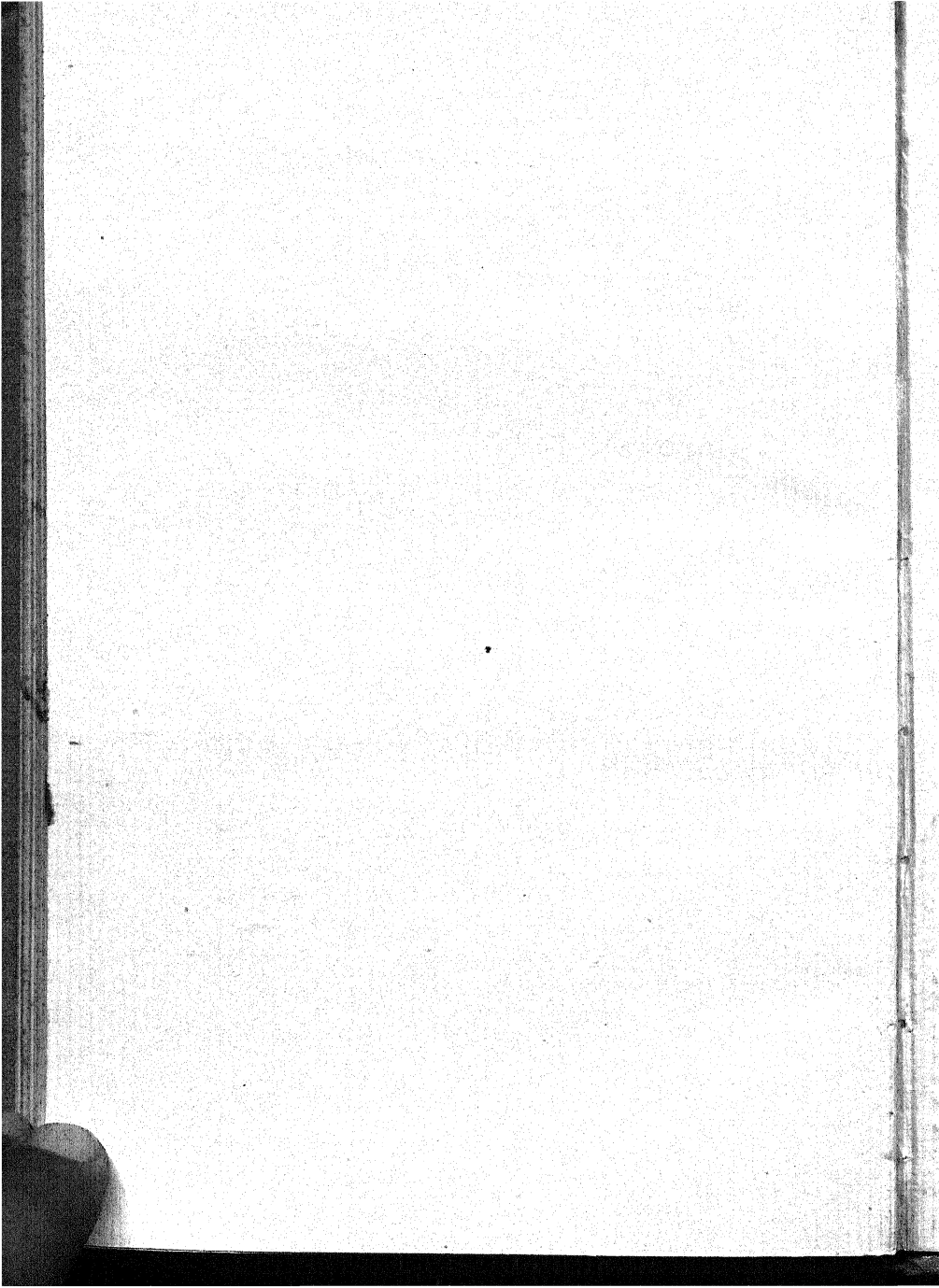
Such historical laws do not, therefore, constitute the order of history but help us to recognize those inter-relations between events that do constitute it. Dialectical Materialism, for example, discloses a sort of 'natural selection', securing the 'survival of the fittest' among human societies. But the test of fitness is shown to be not success of nations in destructive wars or competitive commerce as racialists and economic nationalists have pretended by a perversion of Darwinism. It is something positive—the harmony between the means of production on the one

hand and the property relations together with the political, religious and artistic superstructure built thereon on the other. A society can progress and therefore live and survive only in so far as the relations of production—the whole economic and political system—favour the development of science, the march of invention and the expansion of productive forces.

No theory of history can foretell what new discoveries science has in store, what productive forces will thereby be put at the disposal of society nor precisely what economic organization or political institutions will be suited to their exploitation. Analysed from the standpoint of dialectical materialism history will show how institutions and beliefs have, in fact, in the past been related to technological and scientific developments.

Even this will not explain the precise form assumed in particular instances, why, to take Engel's example, 'among the many little States of North Germany Brandenburg was to become the great power embodying the economic, linguistic and, after the Reformation, also religious differences between the North and the South'. (*S.W.*, 382.)

Nor need it. Scientific history makes no claim to be a sort of astrology to predict the outcome of a particular race or an individual battle for the profit of sportive or militaristic speculators. Its study, on the other hand, will enable the sober citizen to discern the pattern the process has been weaving in the past and therefrom to estimate how it may be continued in the immediate future. One great statesman of today has successfully foreseen the course of world history and him we have just quoted as an exponent of Marxist historiography.



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