

Space for Notes



**Clarence E. Ayres,**  
*Theory of Economic Progress*  
(1944)

**Chapter IX:**  
**Technology and Institutions**

DID INSTITUTIONS such as those of business enterprise, democracy, Puritanism, and the like “make possible” the development of the industrial economy? That has been the traditional belief. There is a sense in which that belief is true. But there is a more important sense in which it is quite false. The difference is between active and passive agents. If the institutional structure which prevailed in western Europe prior to the industrial revolution of the past five centuries or so had been sufficiently solid and rigid to inhibit technological change, then it goes without saying that the change would not have occurred.

Since the industrial revolution did occur, obviously the institutional structure which it confronted was insufficiently solid to prevent change. That structure was a causally significant part of the total situation; but its significance was-- and consequently is still-- permissive, not dynamic. To attribute the total process solely or even primarily to the agency of institutions is equivalent to attributing a crime wave to the weakness of the forces of law and order. There is, after all, a significant difference between committing a crime and failing to prevent its commission; and there is an equivalent difference between the permissive responsibility of the institutions of western Europe for the changes of the past five centuries and the active agency of technological development of which those changes were and still are the direct expression.

This difference can be understood only in terms of the nature of social institutions. No word is more frequently or more vaguely used in contemporary social sciences than “institution.” Some such word is of course indispensable.

All social behavior is continuous with all other social behavior, but the analysis of this whole must resolve it into parts of some sort. That is what analysis means. The whole is a complex of individual acts, or of “folkways and mores.” But these are prodigiously numerous. To proceed from the social whole without any intermediate level of generalization to the vast ruck of particular folkways would be equivalent to proceeding from the organism as a whole to the level of generalization of cytology without any intermediate morphology. Some sort of division of the social whole into parts is inevitable, and for this the familiar “institutions” stand ready to hand. For many centuries the church, the state, and the family have been recognized as more or less distinct foci of social activity, and common parlance has always identified them as institutions. Modern social science has therefore-- perhaps unavoidably-- taken over these institutions as the basis of social morphology.

The list of course does not end here. Property has always been regarded as an institution, and the proliferation of social activities in the modern community has provided many instances of more or less clearly identifiable foci which are now quite distinct from family, church, and state, such as educational, recreational, and eleemosynary institutions. Proceeding in this fashion social scientists have come to regard an “institution” as any subdivision of the social whole and so to identify as institutions such different features of modern life as the city, science, divorce, machine technology.

In this fashion the meaning of the term “institution” has become progressively vague; for it is abundantly evident that the family, science, and the city, for example are anything but co-ordinate. The family, the church, and the state are centers of activity in which virtually all members of the community participate, whereas the city is a category by which certain individuals, its residents, are distinguished from all others. The activities to which the terms “family,” “church,” and “state” make reference are more or less distinct in time and place in the lives of their participants. Family life centers in an edifice, the home, and is more or less concentrated into non-working hours. People go to (a) church (building) on Sunday. Educational and recreational activities are more or less co-ordinate in the sense that children also go to school (buildings) from nine to three, and in the evenings go to the “movie” (theater). But is “science” something that one does on certain days, something that one “goes to”? Or machine technology?

The confusion with regard to the nature of institutions would be less if the word were an exclusively scientific term invented ad hoc to designate any cluster of activities of whatever character. Such a term is sorely needed. Phrases such as “activity cluster,” or “organizational structure” are both cumbersome and stilted, and in the absence of any other term it is not surprising that the word “institution” should have been overloaded. But it is unfortunate, nevertheless; for it is inevitable that this word should retain something of the meaning with which it was imbued through its original association with the family, the church, and the state, with the result that the designation of such “organizational” structures” as the city, or machine technology, as “institutions” carries the quite unfortunate implication that they are just such structures as the family and the state, which is certainly not true.

These original or basic institutions are something more than structural subdivisions of the social whole. They also have functional peculiarities in common which give them their common tone and color, and mark them off, functionally as well as structurally, from the undifferentiated mass of social behavior. It is sometimes said that the family, for example, is an organizational structure which society has set up for the nurture and education of children. Such a description is clearly technological, since its reference is to medical, dietetic, and sanitary considerations, and to the intellectual techniques of language mastery, the use of elementary tools (buttons, safety pins, and the like). All this is quite false. The family was not “set up” in this sense at all, certainly not as an efficiency device for getting certain sorts of work done. On the contrary, it is notoriously inefficient-- judged by technological standards-- and in consequence of its inefficiency these activities have been organized in other ways to a steadily increasing degree. The functional meaning of the family was never better described than in the much-quoted remark of Robert Frost’s “hired man”: “Home is where if you got to go there, they got to take you in.” The family is a power-system through the medium of which rights and duties are defined: those of husbands with regard to wives, and vice versa; those of parents with regard to children, and vice versa; and to a less degree (at least in modern Western society) the privileges and obligations of an indefinite series of remoter relatives. Family life is a focus of mores to a notable degree-- to such a degree, indeed, that we often use the word “immoral” to designate specifically sexual (that is to say, familial) infractions of the code. It is quite true that certain activities of a technological character, such as nurture and education, do occur under the auspices of the family; but they do so as a consequence of the rights of parents to the persons of their children and the rights of children to be supported according to their station in life. If anyone doubts this, let him apply to a court for the custody of some other person’s child on the grounds of a difference of opinion with regard to dietary or educational procedure. He will soon discover that it is the sacred right of parents to malnourish and miseducate their children.

The same is true of all the original or basic institutions. Property is sometimes described in textbooks as a device for the organization of the physical equipment of the community for purposes of production, in spite of the evidence of the vacant lot which pupils habitually cross on their way to school. The conception of the state as having been “set-up” for the organization of certain types of activity was once so widely held as to have earned a special designation: the theory of the “social contract.” But no modern political scientist adheres to that theory. On the contrary, it is now generally agreed among political scientists that the state is “the supreme coercive power,” and that its origin is to be sought in the legends of mystic powers defining arbitrary status which go back to the very “beginning” of civilization.

Not only are these explicitly ceremonial functions of the original and basic institutions clearly recognized by all contemporary students of social organization; it is these functions which are imputed to all social activity by the indiscriminate use of the term “institution” to designate all subdivisions of the social whole. Because the institutional prototypes have a penumbra of legend, many sociologists proceed to speak of science as the legendary penumbra of modern Western civilization; and because the prototype institutions are clusters of mores, by which among other things occupations are defined, many sociologists speak of the division of labor in the modern industrial economy as though there were no qualitative differences between specialization in the use of tools and the mores-dedication of men to hunting and women to agriculture. No doubt modern civilization merits a certain amount of cynicism. The jurisdictions of certain crafts have become “institutionalized,” and in many respects modern society has indeed made a fetish of science. But to recognize these truths is only to emphasize the realities of which they are falsifications. It is outrageous that a carpenter should have to be called to bore a hole through which an electrician may then be (institutionally) empowered to pass a wire, and it is outrageous that the general belief in the achievements of the physiology of nutrition (combined with general ignorance) should make it possible for a scoundrel to market sea water at \$1.25 a glass as a remedy for “mineral deficiencies.” Nevertheless no one would assert that such incidents tell the whole story of scientific research and technological specialization. Indeed no careful analyst would attribute these practices to science and technology. If the public “legendizes” science, surely that is because of our age-old indoctrination with superstition; and if the craft unions “institutionalize” certain occupational procedures, surely that is a phenomenon of status rather than a function of tools and skills.

What is at issue here is more than a mere matter of terminology. The confusion of the structural with the functional significance of institutions in the current literature of the social sciences has led to a confusion of technological with ceremonial behavior functions, and this confusion has blocked our understanding of the process through which the institutions of modern industrial society have been undergoing modification. As organization structures, or (structurally conceived) segments of social behavior, “primary” institutions such as the family must be understood to contain tool-activities as well as ceremonial usages. But the peculiar quality of these particular foci of activity is unquestionably ceremonial. The family is a behavior complex in which the nurture and education of children is subordinated to the mores of the husband-wife and parent-child relationships, as are all other activities which the mores of any given community relegate to this particular status-system; and the same is true of the church, the state, the secret societies of primitive communities, and an educational system which makes instruction contingent upon saluting the flag and has as one of its principal functions the segregation of children between the conventional hours of nine to three.

In the same sense couvade, circumcision, and ownership are institutional in character since, although they are not co-ordinate with the “primary institutions as major segments of community life, they are of the same character as the family-church-state complexes. Whether the city is an institution in this sense is extremely doubtful. Fustel de Coulanges undertook to treat the city as an organism, just as the sociologists of his time proposed to regard society as an organism; but most contemporary social scientists would agree that the metaphor was greatly overplayed in both cases. Does the city have the institutional character of family or state? To some degree, perhaps, city life has developed a characteristic set of mores and status relationships which do not prevail elsewhere and may therefore be regarded as institutionalized, but only to a very slight degree. The differences between one concourse of people and another are quite as marked as the resemblances. Are Altoona, Washington, and New York three instances of the same phenomenon? One may venture to doubt it.

Is science and institution? To some degree even science has become institutionalized as “something to conjure with” in modern society. Scientists as members of a profession have been institutionalized by advertising artists who always picture them vested in ceremonial robes of white and surrounded with occult paraphernalia-- microscopes, test tubes, and Kjeldahl flasks. Some scientists have contributed to this process of institutionalization by the air of mystery and supernal authority which they assume on their public appearances. But do these performances derive from the nature of science, or from other and more explicitly institutional heritages? Individual scientists may behave like bullroarers outside the laboratory, and particular scientific procedures may become institutionalized in the community; but surely science as a mode of behavior is qualitatively different from respectable family life. And the same is true of technology. Particular techniques and individual artists or artisans may become institutionalized. But surely the institutionalization of agriculture, for example, as an occupation of women in primitive society is dictated by the mores of family life rather than by the nature of the tools and skills employed.

Words, too, are tools. We must not assume that the word “institution” must be used in any particular fashion. To do so would be to institutionalize it. But if it is to be a tool, it must cut. It must distinguish something or other from something else. To apply the word “institution” to every sort of activity and behavior function is to destroy its cutting edge altogether, and thereby to reduce its use to that of a much courser word-tool such as “part” or “subdivision,” with which we are already adequately equipped.

If we use the word “institution” to refer to those behavior structures which have the qualities of those structures with regard to the identification of which as institutions all students agree-- family, church, and state-- that is, segments of social behavior predominantly ceremonial in character, it becomes obvious at once why we persist in imputing so much potency to institutions. Not to do so is impious. As good parents and citizens, devout communicants and respectable property owners, we are obligated by the mores to believe that a separation of children from parents, or of property from owners, must be followed by disaster (probably a blight upon all the tribal crops), and that all good things result from the assiduous practice of the institutional mores. This the institutional imperative. Members of the holy order of canoe-builders may use flint scrapers in hollowing out a log and they may know just what flint to use for every part of the job; but they must believe that is their consecration to the order and most particularly the liturgy of the shark’s teeth by virtue of which their technological efforts are ceremonially adequate.

It is in this spirit that we have attributed modern industrial progress to the

institutions of Western society. In doing so we have overlooked none of the ancient shibboleths. Credit goes to property of course, but also to the family which provides the pattern of inheritance and employment and the incentive to industry and thrift, to the state which guarantees the titles to property and supplants feudal privilege, and even to the church which lends unprecedented dignity to the business man and for the first time sanctifies the accumulation of wealth. The phrase with which, we do honor to the institutional structure of modern industrial society, "free private enterprise," recognizes all these sanctities. It is "free" by virtue of the state, "private" according to the familiar pattern of ownership, and "enterprising" in the sense of the Christian parable of the talents.

Nevertheless it is a matter of common observation that all institutional ties and sanctions have been progressively weakened in modern Western society. Would anyone deny that the influence of the church has steadily diminished throughout modern times, or that the family is much less potent now than formerly? The cases of the state and property are not so clear, perhaps. To many students these seem to be the dominant institutions of the present age. Nevertheless even these institutions, which do incontestably bestride the modern world, show many signs of having under-gone internal modification-- a process of secularization, as it were, in the course of which the original mystic sanctions have been overlaid with such a tremendous proliferation of administrative machinery as to affect a marked alternation in the character of the institutions themselves, an alteration of character which is also observable in church and family. Although authority and status have by no means disappeared from modern family life, it is certainly true that efficient teamwork plays a much larger part in the activities of the contemporary home than ever before. There is less insistence today than at any previous time upon status-determined rights and occupations and more concern for efficient cooperation. The church also has by no means abandoned its sacerdotal functions, and some church leaders are vehement in their insistence that these are the only true functions of the church; but the occasion for their insistence is the steady growth in importance and volume of quite another type of activity and interest, that of the community center and welfare agency.

These changes signalize the impact of technology upon the institutions of Western society. It is a mistake to think of this process as a direct challenge or even collision. The growth of technology is always surreptitious and apologetic. Thus, for example, scientists have always protested that they have no quarrel with religion. The astronomer only insists that the creation of the earth cannot be conceived to have occurred in six literal solar days, the geologist that a disturbance capable of parting the waters of the Red Sea would also have prevented the passage of the hosts of Israel; but each protest that he does so only in the interest of "true" religion and not in a spirit of antagonism at all. The same protests have been uttered all along the line. Historians inform us that the burghers of the early modern towns insisted that they had no thought of opposing, let alone destroying, the feudal system of medieval society; their only wish was to be allowed to live and to pursue their own interests in their own way. That change nevertheless comes about is due almost altogether to the alteration of the physical conditions of life which technology effects. If superstition plays less part in modern life than formerly, that is due not so much to the "conversion" of the mind of the community as to the incidence of sanitation by virtue of which modern life is less nasty; brutish and short than formerly and hence somewhat less subject to superstitious mass hysteria. But even changes of mind are the result of a similar process. An invention which was made in order to facilitate the reproduction of religious tracts resulted in flooding Europe with books; and a community which learned to read in order to have direct access to Holy Writ ended by reading books on dietetics.

Thus technological development forces change upon the institutional structure by changing the material setting in which it operates. But the adaptation does not involve a change in the character of the ceremonial residue which survives the change. There is no such thing as an institution (or a set of institutions) that is "appropriate" to a given technology in any but a negative sense. The disappearance of armor may have resulted in the disappearance of the institution of chivalry. As G. G. Coulton remarks:

When the Hundred Year's War brought a real national conflict between England and France, when archery became of supreme importance, and a large proportion even of the cavalry were mercenary soldiers, then the exigencies of serious warfare swept away much of that outward display and those class-conventions on which chivalry had rested.

He also remarks in the same passage that "at least as early as the middle of the 13th century" -- the time when European society is supposed by some of our contemporaries to have been so thoroughly integrated-- "the commercial side of knighthood became very prominent," especially through the sale of well-born daughters. With the progress of the industrial revolution other forms of assets became more important and the family complex sloughed off much of its feudal substance, including the class-valuation of daughters. But inheritance remains as a feature of the modern institutional structure; and as such it is a sheer feudal vestige performing no useful (industrial) function whatever and "better adapted" to the present technological scene than chivalry only in the sense that is also true of the system of patronymics; it has not yet fallen so directly afoul industrial technology as to have become intolerable.

It is this process of dilution and attenuation to which the institutions of Western society have been subjected by the industrial revolution. The changes they have undergone signify in part a reduction of the importance of these institutions in modern life. By creating machinery for the more efficient performance of certain industrial operations technological development has resulted in the shift of those activities for example from the home to industry. This has the unintended but nevertheless considerable effect of diminishing the importance of the family as an institution. There has also been a reduction of the ceremonial content of the institutions themselves accompanied by a proliferation of technological organizational mechanisms in the same area. Thus the reduction of the feudal substance of inheritance has been accompanied by a proliferation of organizational devices for the conveyancing of property by virtue of which industrial society has been able to tolerate a vestige of that institution without seriously affecting the continuous operation of industry. But the ceremonial content which is still retained must nevertheless be identified as pure atavism. The transmission of property from father to son, etc., is no more "adapted" to the exigencies of machine production than bull-roaring.

The discussion of the specific institutional changes which have accompanied the industrial revolution has been greatly hampered by the language which conventional usage has prescribed. Concepts such as "individualism," "freedom," "privacy," and "enterprise" are not only vague; they are tendentious and ambiguous. Each of these words has two sets of meanings one of which is regarded with general approval but is non-institutional in character, while the other is institutional in character but is not the object of general approval. Thus freedom, for example is a splendid thing, if we mean by it the abolition of serfdom. But this a negative condition. We often think of it in terms of seemingly affirmative "rights": equality before the law, habeas corpus, jury trial, and the like. But these rights, precious as they are, do not confer any positive benefit. As has so frequently been

pointed out, freedom from serfdom or even chattel slavery may actually be the freedom to starve; while equality before the law is purely juridical in the sense that it does not by any means extend the law's reliefs on equal terms to all citizens. It only abolishes serfdom. This a great boon for which much blood was shed in earlier centuries, and is therefore greatly to be cherished. But it is a relief from institutional tyrannies of the feudal past, and as such it is a result, not a cause of the industrial revolution.

There is another sort of freedom which is positive and substantial; but it also owes nothing to any institution. If we think of freedom in terms of freedom of movement, we may mean one or the other of two things. Serfs and slaves are not free in this respect. The abolition of the institutional restraints to which they have been subject in this respect may be a great relief, but it does not endow them with the faculty of movement. But this has been done, for example, by the invention of the automobile, and quite without benefit of any institutional sanction. That is, the automobile has in fact greatly increased the movement of virtually the whole community. This sort of expansion of the limits of possible action has been very considerable throughout modern times and has affected many aspects of life. Obviously it is not the result of any sort of institutional sanction. No authority has been extended to the twentieth-century community to move about. Movement has occurred because it is now technologically possible, and for no other reason. This sort of freedom, also, is highly prized. Few would care to return to the activity-limits of say, colonial America. But what we prize in this regard also is institutionally negative in the sense that it is not owed in any direct and demonstrable sense to any institution.

There is another sort of freedom which is clearly institutional in origin. The rich enjoy degrees and qualities of freedom which are not shared by the poor. These advantages are positive and substantial. The rich are not merely freed from inhibitions; they are endowed with potentialities of actual experience which do not exist for the poor. They are free to spend their winters in Florida and their summers cruising in the Mediterranean. Over and above the negative equality before the law which all citizens enjoy; they are free to give bail and to employ astute counsel. In this sense of their ability to escape the consequences of their acts, they are even free to commit crimes. The reality and immensity of this freedom is beyond question. Furthermore it is obviously a perquisite of status. Conceived solely in terms of wealth without any reference to the historic class-division of society, it still flows directly from the institution of property. But it does not enjoy the approval of the community. When we sing hymns to freedom we are not rejoicing that the rich have advantages not shared by the poor. "My Country, 'tis of thee, sweet land of liberty," does not make reference to this phenomenon.

The concept of individualism is still further confused by metaphysical connotations. Since "individuality" partakes of the nature of the Ultimate Reality, whatever that may be, the highest accolade which any social order can receive is that it safeguards and develops "individuality," and the most damning criticism is the charge that the hated regime "sacrifices individuality" to some institutional Moloch. Thus the most grievous fault of National Socialism is said to be that it subordinates the individual to the state. In discussing other societies than their own and their enemy's students of the social sciences are agreed that all societies do this-- indeed, that the distinction between the individual and society is artificial and invalid. Nevertheless, individualism, like freedom, has various concrete meanings which can be distinguished readily with results quite different from prevailing belief.

There is a concrete sense in which the Protestant Reformation may be discussed in terms of individualism. The vital issue between Protestantism and Catholicism is the one which used to be known among Protestants as "popery"; that is, the

Protestant churches began by challenging the authority of the Church of Rome. Since they of course retained the Bible and the essential Christian beliefs in the messiahship of Christ, the vicarious atonement, etc., the (negative) elimination of papal authority could be and was stated affirmatively in terms of individual access to the Bible and to direct communion with God. But Protestantism added nothing to the Christian liturgy or creed. It must not be supposed that Catholicism attached no importance to the Bible or to conscience. Indeed, the common belief that Christianity as such and throughout its history is pre-eminent among the religions of the world for its solicitude for (metaphysical) individuality stands as a contradiction to the supposition that solicitude for individuality began with Protestantism. What individualism means in the Protestant connotation is therefore wholly negative: it means the denial of the authority of the pope, or "Rome."

Conceived as a severance of institutional ties the Protestants Reformation was clearly an aspect of a much more general severance. It developed in those regions and among the people-- the middle-class burghers of the late medieval towns-- whom the early phases of the industrial revolution had placed in a position of confrontation to the feudal order generally. These citizens did not invent for themselves *de novo* a new culture, nor had they any thought of doing so. They were in origin and therefore in thought and feeling Europeans and Christians; but they were also, as Pirenne so graphically says, *deracinés*, and they found themselves in possession of an instrument of great power, incipient machine technology. The assertion of their power in the face of challenge by feudally vested authority obliged them to challenge that authority and to detach themselves from it, ecclesiastically no less than politically. Thus the assertion by Protestants of the primacy of "individual conscience" in the religious life, however great and precious an achievement it may have been, was institutionally negative in the sense that it did not of itself enrich the lives of communicants; it only (however important this may have been) released them from previously prevailing institutional inhibitions.

Their lives were positively and substantially enriched, and in this quite different sense the individualities may be taken to have been expanded, by the same forces of industrial revolution of which the Reformation was one expression and the Bill of Rights another. That is, learning to read, getting more to eat, wearing stockings, living in heated and more or less decently ventilated houses, losing the dread of typhus, cholera, and even leprosy, may all be described as enrichment of personality. But it is enrichment of a very different kind from that represented by the Protestant Reformation, and to regard these two "individualisms" as identical in the sense that the whole enrichment was achieved once and for all when the authority of the pope was successfully challenged is simply to confuse the issues.

Both of these "individualisms" were the effects, negative and positive, of industrial revolution. But there is still another sense in which that term may be used to refer to a change which was clearly institutional. Just as the breakdown of papal authority left conscience and the Bible as the central realities of the religious life, so the breakdown of family and class left the institution of property as the central reality of economic and even political life; and in this case also the sanction which remained was exercised by persons. This may not be sheer coincidence. There may be some general law of institutional decomposition by virtue of which the collapse of a power-system always takes the course of decentralization. But whether this is true or not, it is certainly true that the power of wealth which followed and even supplanted the feudal system (in which that power was merged with family ties, class structure and all the rest) was not a creation of the Protestant way of religious life. It was a derivation of the feudal power-system, an institutional residue which remained when other aspects of that system had vanished and so occupied a central position in the resultant institutional structure. The power of wealth is certainly a

positive and substantial phenomenon, and it may be conceived as an expression of "individuality." It is certainly institutional in character and origin, and related to the other institutional residues of modern society. But to regard Protestant "individualism" as the source, or cause, of wealth "individuality" is to misconceive the whole process of which both were exemplifications. No Christian needs to be persuaded that Christian theology has no special affinity for wealth, any more than the teachings of Jesus afford any special basis for the hierarchical power-system of feudal society. The medieval church was feudal not because it was Christian but because it was the church of feudal Europe; and the modern church is capitalistic, Catholic no less than Protestant, because it is the church of capitalism. The functional relationship between church and the other features of the institutional structure of society is older than capitalism and is neither the cause nor the result of the rise of money-power. Both owe their importance in modern society to the changes wrought by industrial revolution, and both derive their substance from an older institutional structure in which they also played a part though a somewhat different one.

The institution upon which by general agreement the institutional weight of the modern economy chiefly rests is that of property. Property is sometimes described as a modern innovation, but this is true only in a very limited and special sense. The institutional structures of all societies have a property aspect, although it is nowhere else as fully separated from family, state, and church as in modern Western civilization. That is, the behavior-system of every community contains a cluster of mores which define the fashion in which certain articles and instruments are thought to be imbued with the personality of their "owner," as we would call him, specifying the powers he exercises with respect to them and the limits to be observed by others by which they are sometimes forbidden even to touch or see specified articles.

These mores, it goes without saying, are most explicit and detailed in their specifications of patterns of behavior having to do with the tools upon the use of which the livelihood of the community chiefly depends, since the supreme coercive power is power over the essential instruments of production. In a locally self-sufficient agricultural economy such as that of feudal Europe, land is of course the most essential instrument of production, control of which means power to exploit the whole community heritage, as Veblen said, of technological ways and means. This pattern of control coincided, as it always does, with the pattern of feudal relationships generally. Ownership is never absolute. The most exclusive pre-emptive rights may be qualified by inalienability. The "owner" may be authorized by the mores to prohibit any other person from any use whatever of a given article (as current mores justify one in refusing the use of a wedding ring even to the dearest of friends and closest relatives) and at the same time the owner himself may lack the power to dispose of it (as is also the case with wedding rings). It is this fact that feudal property (that is, the essential property rights in land) was subject to entail that prompts some students to draw a hard and fast line between feudal fief and industrial property. This is the point at which the greatest change occurred between the mores of feudal and commercial society. But the change must not be allowed to obscure the continuity. Only the permanent changes! It would be impossible to define property even today exclusively in terms of conveyancing, since there must be something which is conveyed. If we go beyond the very great differences of transfer to the mores which define that which is transferred, the continuity of modern with feudal property rights is undeniable; and what is most continuous is the focus of each set of property mores upon the essential instruments of production.

The point is that the changes in the alignment of property rights from feudal to

commercial society followed a change in the instruments of production. If we are to suppose that it was the evolution of the modern pattern of property rights which "made possible" the development of machine technology, we must suppose that this development preceded the appearance of machine technology and worked itself out within the range of instruments of production of feudal society. But plainly such was not the case. What actually occurred was a development of industry and commerce by virtue of which new instruments and materials so progressively overshadowed the products of feudal agriculture and the manorial economy that the feudal community became increasingly dependent upon the newly burgeoning industry and commerce, with the result that feudal fief progressively diminished in importance until it ceased to represent "supreme coercive power." It was not the feudal instrument of production which was first freed from entail and made subject to conveyancing. On the contrary, entail has persisted even into the twentieth century. The property which passed from hand to hand in medieval and early modern commerce consisted of chattels, and the process of evolution was one in which the importance of chattels gradually superseded the importance of land as a consequence of the character and volume of the chattels, which in turn was a consequence not in the first instance of alternations in the mores but of technological development, a development which of course must be taken to include revolutions in the technology of transport such as the one pointed out by Lefebvre des Noettes. As an instance of the impact of technology on institutions this change runs true to form. What resulted from the earliest stages of the industrial revolution was a change in the material conditions of life in the course of which a shift in the technological center of gravity inevitably occurred. A land economy became a chattel economy, with the result that chattel-mores became paramount and land-mores progressively inconsequential, until one had virtually absorbed the other.

But the mores even of chattel-transfer had the character of an institutional heritage. The medieval merchants did not "institute" transfer of property as an ad hoc invention "better adapted" to their activities than the institutions of feudalism. Chattel property had existed throughout feudal times, as it does in all societies. This is what the textbooks have reference to when they say that the institution of property existed but played only a minor role in feudal society. They can manage to ignore the property aspects of feudal fief, but they cannot altogether deny the existence of disposable objects even in the heyday of feudalism. However, the carryover of institutional patterns from the feudal to the commercial power-system was by no means limited to chattel property. It is of the essence of modern property rights that "a man's home is his castle." This phrase has been repeated so often and for so long a time that it has lost its original and literal connotation, but its true meaning is contained in the literal significance of the constituent words. In medieval times fugitive serfs and uprooted men of every degree established themselves in *faubourgs* where they proceeded not to invent institutions "adapted" to their way of life but rather to arrogate to themselves as much of the feudal institutional order as could be invoked under the circumstances. In particular they sought to invest their burgher homes with all the inviolability of the feudal castle: the right of security from search and seizure, the right not to have soldiers quartered on them without their consent, the right to dictate the terms of employment which obtained beneath their roofs-- that is, the right of masters with reference to servants.

Far from relegating feudal property-mores to the dust heap of superannuated things the modern institution of property derives its substance from the past and carries over into the machine age a quite surprising amount of feudal baggage. Since the *faubourg* home of the merchant and master-journeyman was not in fact a feudal fief, it was free from the outset of the feudal qualifications of entail and so was quite as disposable as any chattel; and since it was nevertheless a home it was able

to arrogate to itself the most inviolable sanctities of feudal fief, advantages which the feudal baronage had managed to establish only by force of arms. This happy combination of rights and privileges, sanctified by immemorial tradition and reaffirmed in modern law, has been perpetuated into the machine age in which the artificial and as the French say anonymous personalities of corporations exercise over vast industrial principalities a system of rights and authorities which had its immediate origin in the feudal castle. Indeed the order of the castle still pervades the corporate atmosphere.

But to do justice even to textbooks, it is not this system of rights which is commonly held to be the institutional foundation of machine industry, but rather the extraordinary flexibility of the modern institution of property and to an even greater degree of the modern corporation. As an organizational device unquestionably the modern corporation is far better adapted to the exigencies of large-scale machine production than individual proprietorship or partnership. But what makes it so is a matter of administrative technique. No time need be wasted in the discussion of the technical aspect of administration. In recent years it has become the subject of a large and highly specialized literature and is now recognized as a special field of study both by political scientists and by students of business administration. It is a machine phenomenon par excellence. The machinery of personnel administration, of stock-taking and inventory control, of efficiency management and cost accounting, of physical distribution and transportation, sales organization, bill collection-- everything connected with the operation of a modern concern -- is highly technical. A glance through the advertising pages of any magazine of general circulation reveals the extent to which modern business makes use of such instrumentalities as telephone, telegraph, and air mail; local intercommunications systems, both telephone and radio; air travel and transport, long- and short-haul trucking; research organizations of every kind-- and so on indefinitely. The consolidation of management rests at every point upon the utilization of mechanical devices. Practices which have sometimes been thought to be purely financial such as the "one price system" of modern retail merchandizing, are entirely dependent upon the technology of labelling, cash registers, filing systems, and the like; that is to say, business machines. Large organizations, of which the criticism is sometimes made that they effect no economies of mass production, nevertheless owe their existence to technological developments in other fields than manufacture. Some of the great distributing concerns, for example, are in effect fleets of trucks and strings of warehouses. The stock exchange itself is not the outgrowth merely of the instinct to truck, barter, and exchange; in its modern role it is a network of wire services.

So great has been the proliferation of technical instruments and skills in modern business that "management" has come to play a constantly increasing part in its conduct, and "ownership" a correspondingly decreasing part. Berle and Means have even gone so far as to suggest that corporate organization has displaced property, and Professor Burnham has declared that the change is revolutionary in character and proportions. No doubt it is; but it is a revolution within the institution of property, a differentiation of hitherto organically related functions; that of discretionary control and that of derivation of income. To an extraordinary degree wealth has come to be conceived in terms of command of income from property which has assumed the form of corporate securities and so has come to stand not so much for equities in any physical plant as for a "share" in corporate earning power. Veblen called attention to this aspect of the change many years ago, and since it has extended to every corner of modern business life affecting even the conception of what constitutes an asset and the whole meaning of valuation, Professor Commons held that Veblen's appreciation of this institutional phenomenon was his major achievement and the cornerstone of "institutionalist" economics. Certainly it was quite typical.

But both of these functions are functions of ownership. The “right to income” derives from the immemorial sanctions by which the harvest was assured to the owner of the field; and “discretionary control” also derives from the same mores by which trespassers were excluded from the property and the owner vested with authority to till and tend and supervise. Hence their dissociation is fraught with consequences of the highest gravity. The right to income has been supported in the past by a whole complex of mores and status-relationships. Having become detached from its legendary background, will it continue to be honored? And, on the other hand, will de facto discretionary control which has been achieved through the exigencies of administrative technique continue to enjoy the immunity to “government interference” which was once thought to be implicit in the sacred rights of property? As Professor Burnham points out, the modern corporation is not a substitute for the institution of property. Government also has been the scene of a managerial revolution. The regulatory commissions employ the same administrative techniques and devices which have given rise to the corporation and so are a joint product of the same technological development. In government, too, the proliferation of managerial machinery has overshadowed the ancient sanctions of sovereignty. The managerial revolution is more than the displacement of one ruling class by another ruling class, more than the displacement of recipients of income from discretionary control. It is perhaps an expression of the much more significant and far-reaching displacement of ceremonial by technological functions throughout society.

Changes such as these do indeed affect the internal character and constitution of the primary institutions of Western society, and the resultant institutional situation is indeed much better adapted to the operation of the industrial economy than were the institutions of medieval or early modern times. And this development is of very great importance, as Veblen, Commons, Berle and Means, Burnham, and many others have pointed out. The dissociation of the functions of property and the subdivision of equities into infinitesimal increments which are both perpetual and completely interchangeable, all mirrors the continuity of the machine process in space and time. But these institutional changes did not precede and “make possible” the technological development with which they coincide. They were not derived from preexisting institutions by the proliferation of the legendary mores of rank and power. What brought them to pass was rather the elaboration of administrative techniques along distinctively instrumental lines, and the gradual atrophy of whatever institutional considerations of rank and power failed to take this line. To speak of this process as having made possible the development of machine technology is to misconceive completely the essentially technological character of the process. One aspect of the economy of modern Western society is institutional in character and derivation. The power-system of the modern economy is still a matter of institutionally determined status. In spite of all the apparatus of administrative machinery, discretionary control is still a matter of ceremonially determined rights the sanction of which derives from the legendary past. It was the essential sanctity of the property relationship which continued to command respect throughout the period when other feudal relations were decaying and so to retain the solicitude of the state and the blessings of the church which had formerly been bestowed upon the feudal system generally. It was the ceremonial character of property which inspired modern society to think of accumulated wealth as the primary instrument of industrial production, just as feudal fief had been regarded as the primary instrument of agricultural production, and so to elaborate the concept of capital and the whole classical interpretation of economic process.

This power-system and its legendary background, the system and theory of capitalism, is not the author of the industrial technology by which the modern

community gets its living and on which it therefore completely depends. It is the residue of our ceremonial past, and as such it is an impediment to economic progress as ceremonial proprieties have always been. This does not mean that we may expect, or that we should intend, its speedy dissolution. But it does define the problem of value and welfare which industrial society has now to face.