

## ECONOMIC SPACE: THEORY AND APPLICATIONS<sup>1</sup>

### SUMMARY

Introduction, 89. — I. The idea of abstract space and economic analysis, 91; distinction between geonomic (banal) space and economic spaces, 92; space defined by a plan, 95; space defined as a field of forces, 95; space defined as a homogeneous aggregate, 96. — II. Some applications of the distinction between the three types of economic space, 97: monetary space, 97; national space, 99; the European economy, 102.

I have no intention of playing the easy and hardly glorious role of a European who comes to criticize Europe in America. But having spoken and written in this vein a number of times in Europe, I probably retain the right to say here and now that the hard trials we have undergone have caused an increase, amongst our élite and our masses, of a certain number of *pathological complexes* which make a reasonable international policy very difficult.

I will cite four of these complexes: (a) that of the "small nation," (b) that of encirclement (*Einkreisung*), (c) that of people without space (*Volk ohne Raum*), and of vital space, and (d) that of "natural frontiers" and of historical frontiers.

Each of these topics has clearly a real foundation. If the facts which gave them birth were interpreted in cold blood, there would not be any reason to use the big words "complexes" and "pathology." But around a kernel of reality there develops a double process of *interpretation* and of *dramatization*. It is the result of more or less spontaneous reactions of the masses; it is also stimulated and maintained by political leaders.

The great inequality of nations and of economic resources amongst nations is a fact. The interpretation and dramatization begin when, without investigation or qualification, the opinion is formed that the small country is condemned to impotence, dependence and exploitation.

It is also a fact that any nation or group of nations does not cover the surface of the entire world. From the point of view of cartography, there is no nation that is not in some degree encircled. From these acknowledged facts, the interpretation and dramatization give rise to a "besieged castle" mentality.

1. This article was delivered as a lecture at Harvard University on November 2, 1949. For the translation into English, I am indebted to Y. Mainguy, Director of the London branch of the I. S. E. A. (Institute of Applied Economic Science), G. Rottier, assistant to the Director, and Mrs. Copp, technical secretary; and I wish to express to them my sincere thanks.

Population pressures are unequal amongst nations. But it is by no means necessary to attribute to them proletarianization, the vital necessity of war, or the doctrine of "need as the source of right."

Geography proposes themes to history, and history is *one* of the raw materials for the statesman. The earth cannot be remodelled entirely and without delay, the past cannot be effaced. But there is nothing in all that to lay the foundations of venomous and interminable quarrels about historical frontiers and natural frontiers.

I observe that this pathological deformation of some indisputable data is only possible through the aid of a *common and inexact notion of space*. A banal sense of space location creates the illusion of the coincidence of political space with economic and human space. More precisely, we go on depicting to ourselves the relations between different nations as consisting exclusively in men and things in *one* space, conceiving them as *material* objects *contained* in a *container*. Thus it comes about that the pathological doctrines which have just been mentioned present themselves as supported by the admitted facts of a sound "common sense." The men and objects contained in a containing national space appear in effect to be threatened if the nation is small, if it is surrounded, if it is not economically well provided for, if it has not the outline to which it believes it has a claim by virtue of geographical configurations or historical tradition. This central conception of "container" and "contained" is contradicted on all sides by modern life, especially in its economic aspects. The concept remains tyrannical however, and a sort of disciplined intellectual effort is indispensable when we wish to remove it from intellectual analysis and from concrete policy. If international policy fails, one may certainly accuse interests and passions, but one should principally accuse everyday concepts. We shall risk losing the construction of a new world and of a new economy if we persist in thinking of them in terms borrowed from the old world and the old economy.

In this connection, I will try to demonstrate three propositions.

1. The extension to economic science of the notion of abstract space defined by modern mathematics and physics has not yet been made, even in its most rudimentary form.

2. Even in its most rudimentary and most provisional forms, this extension is a remedy for the pathological complexes, which I have denounced. It results in freedom from the obsession with "contained" and "containing." It allows a description of real economic relations which this obsession conceals or at least obscures. It opens the way to an understanding of the world economy other than by addition or combination of national areas.

3. This extension is necessary for the radical transformation of some of our fundamental economic theories. Since it is necessary eventually to make a choice, this last point will be illustrated by some examples concerning, on the one hand, a specific kind of economic activity, that is, monetary space, and on the other hand complex sets of economic activities — the economic space of a nation and the economic space of a group of nations, for example, the so-called “European” economic space.

#### I. THE IDEA OF ABSTRACT SPACE AND ECONOMIC ANALYSIS

Mathematics has long used and still uses space defined by two or three dimensions, in which points, lines and volumes can be located by their coordinates. Rigid shapes, in Euclidean geometry, are situated in this “containing” space; they are contained within it.

Modern mathematics, following recognized work to which the French have contributed, had become accustomed to consider the abstract relations which define mathematical beings, and so to give the name “spaces” to these structures of abstract relations. There exist therefore as many spaces as there are structures of abstract relations which define an object. These *abstract spaces*, some of which are known to be extremely complicated, are sets of relations which respond to questions without involving directly the location of a point or a shape by two or three coordinates.

By pure and simple transposition of this distinction between Euclidean and abstract space, we may distinguish in our discipline as many economic spaces as there are constituent structures of abstract relations which define each object of economic science. Since, mathematically, an abstract space is entirely expressed only by a constituent structure or by a mathematical system of relations, and since we do not possess either the inventory or the symbolization of relations which characterize either all the objects of economic science or even the more important of them, we have the impression of being blocked at the start and of being unable to get from our distinction anything other than regret and nostalgia. This, I think, is a false impression. Abstract spaces have been accurately defined in mathematics and physics by way of particular and specialized investigations, and such investigations will be necessary to define abstract space in economics. At least we can organize the necessary researches and experiments, and to do this, the distinction in question is of great help. Formulated with the sole resources of logic and ordinary language, it already greatly aids us to interpret the innumerable acts of *delocalization* of economic activity in the contemporary world.

This delocalization appears in relatively simple form in relation to the classical dispute on national income. Leaving aside all the difficulties of the definition of income, shall we calculate the income *in* the nation, or the income *of* the nation? The income *in* the nation is the sum of net services obtained within the national territory by nationals and residents (not nationals). The national territory is, in this case, considered as a container; men and objects are contained therein. The observer determines for a period the flow of net services which issues from the whole. This brings us back to defining the space from which the national income is obtained and to confusing it with the territorial area surrounded by political frontiers.

The income *of* the nation is another thing; it includes in principle the net services obtained by the nationals whether or not resident in the nation. (The social accounting does not keep rigorously to the exigencies of logic and does not refuse to submit to considerations of pure convenience.) There is no longer any need to determine the contents of a container; one acts *as if* an entity had drawn up a plan of employment for the goods and services which periodically deliver a net global revenue. From banal space we have passed into an economic space characterized by a *hypothetical* plan of employment for the national entity.

This example, chosen because it is known, has the object only of establishing a rigorous distinction between *geonomic* space and *economic* spaces. While the latter are, by definition, the proper fields of our discipline, they are also those which have been the least directly and deeply studied. Space has probably given rise to technical literature less precise and less extensive than time; however, our science possesses numbers of mathematically developed studies on the localization of an economic unit or activity considered with respect to cost and price, in so far as they are dependent on space. But it does not possess, to my knowledge, a central study on the *illusions of localization*, which shows clearly that localization in banal space from the point of view of cost and of price is only one aspect of the difficulties of our analyses and policies. Another aspect, not less important, arises from the fact that economic units or activities *cannot be localized*; a concrete economic policy must never forget that.

*Geonomic* space — a term which we will use as synonymous with “banal” space, is defined by the geonomic relations between points, lines and volumes. Men and groups of men, objects and groups of objects, economically characterized in other respects, find a place here; they can be treated by geonomic localizations which give rise to resulting economic consequences.

SYNOPTICAL TABLE OF ECONOMIC SPACES<sup>1</sup>

SPACE	RELATIONS	UNIT		LOCALIZATION
		Simple	Complex	
I Geonomic Space ( $E_0$ )	Geonomic relations between: points lines surfaces volumes	Men Things	Groups of men Groups of things	Geonomic
II Economic Space ( $E_a$ )	Economic relations  <div> <div>Relations defining the plan of a unit</div> <div>Relations defining the plans of the other units in the same set</div> <div>Forces arising from a unit</div> </div> <div> <div>Forces acting on a unit</div> <div>Relations of homogeneity, relative to the units, relative to relations between these units</div> </div>	Micro-units of production  Micro-quantities Prices of micro-quantities Micro-units of consumption	Macro-units of production  Macro-quantities Prices of macro-quantities	Economic

<sup>1</sup> Every set of relations designated by  $E_a$ ,  $E_{a_1}$ , and  $E_{a_2}$  can be considered as an *abstract space*. This concept, used by the French mathematician Fréchet, can be specified following the nature of the abstract spaces which have been submitted to a process of mathematization (e.g., vectorial space, topographical space, etc.). One suspects — although the certainty will be given only by the mathematization itself — that  $E_a$ ,  $E_{a_1}$ , and  $E_{a_2}$  present us with very different difficulties when we try to submit them to a process of mathematical formalization.

But the spaces which directly concern us are *economic spaces*. They are defined by the *economic* relations which exist between economic elements. These economic spaces conveniently reduce to three: (1) economic space *as defined by a plan*; (2) economic space *as a field of forces*; and (3) economic space *as a homogeneous aggregate* (see table on page 93).<sup>2</sup>

The meaning and the fruitfulness of these categories can be judged by reference to the firm, taken as an elementary unit of production and considered, according to the accustomed definition, as a set of material means and manpower subject to the same economic authority.

The banal space of the firm is that in which the material means and manpower of the firm are situated when it is functioning: the buildings, machines, raw materials, and workmen. It is not easy to locate, except under several conditions: the enterprise and the establishment must be one and the same thing, it must be built on one spot only, and one must have a material and possibly over-simple view of the economic resources which are utilized. This space is technical rather than economic. The number of square metres necessary for the installation and functioning of a firm is doubtless a function of the organization, but the economy of space cannot be carried on indefinitely; so that the determining factors are finally technical data such as the nature of the material to store, to stock, to transform; the machines and engines to use; the space required for the necessities of the work and for its preparation. Under these determinate conditions, an optimum technical spatial arrangement exists for a given unit of industrial work.

As soon as we eliminate the simplifications which make our job easy, it is no longer possible to situate the firm in banal space. It is often composed of establishments geographically dispersed, amongst which are formed bonds of organization of varying strength. The same establishment is possibly composed of parts which are not contiguous. The means of production comprise machines and materials, and also electric current and money in the bank. These difficulties of everyday localization do not interest us; the essential point is to recognize that economic analyses centred around *this* localization or

2. My colleague, W. Isard of Harvard University, during the discussion of this lecture, made me aware of the fact that some of the points expressed here have been mentioned by August Lösch in his book, *Die räumliche Ordnung der Wirtschaft* (Jena: G. Fischer, 1944). I agree, with the reservations that Lösch's fundamental visual angle differs from my own, and that the generalization in terms of "abstract spaces" is alien to his important contribution.

connected with it, engender serious illusions which dissipate the notion of *economic space* which we have proposed.

The firm has, in the first place, a space defined by a plan. This plan is the set of relations which exist between the firm and, on the one hand, the suppliers of *input* (raw materials, labor, power, capital) and, on the other hand, the buyers of the *output* (both intermediary and final). The economic distance measured in monetary terms, that is to say in terms of prices and costs, is determined by factors outside the plan; it depends on the structure and arrangement of the plan of the firm, as well as on the structure and arrangement of the plans of groups in relation to the firm. The economic space envisaged therefore escapes all cartography, and even any *single* table of characteristics; a rough expression would be given to it for a period, by some *alternative* tables of characteristics, within the framework of possible combinations. The head of the firm, to a certain extent, gives himself his own economic distances over a period. But, in the event of expansion, the plan in any one period does not contain only quantities for the next period. The development plan itself is situated within the framework of an economic *horizon*, meaning in this case the whole of the elements taken into consideration for drawing up a plan. In this new respect, economic distances can be molded by the initiative of the head of the firm. We must go still further.

The network of property rights is as misleading as the space delimited by physical boundaries or geographic outlines. In these latter spaces, the head of the firm meets the plans of the state, of labor and of competitors. These interferences upset his calculations of economic distances worked out from everyday localization, and it is these that he must overcome, as well as the results of physical distance, in order to achieve his goal. The economic space of the firm is thus in the first place a structure of relations defining the plan of this very unit and the plan of other units; it is largely independent of banal space.

In a second aspect, the firm has a space defined as a field of *forces*. As a field of forces, economic space consists of centres (or poles or foci) from which centrifugal forces emanate and to which centripetal forces are attracted. Each centre being a centre of attraction and repulsion, has its proper field, which is set in the fields of other centres. Any banal space whatever, in this respect, is a collection of centres and a place of passage for forces.

The firm considered as a centre releases centrifugal and centripetal forces. It attracts men and objects (personal and material

aggregations around the firm) into its banal space, or it removes them (diverting tourist activities, land reserved for further expansion, etc.). It attracts economic elements, supplies and demands, into the space of its plan, or it removes them.

Through this process, the economic zone of influence, whether or not it is linked to the topographical one, is determined. The topographical zone of influence of Michelin in France is inscribed in a region, but its economic zone of influence, like that of all large firms, defies cartography.

The firm, in a third aspect, has a space defined as a *homogeneous aggregate*. The relations of homogeneity which define economic space in this respect are relative to the units and to their structure, or relative to the relations between these units.

The firm has, or has not, a structure more or less homogeneous with those of other firms which are its neighbors topographically or economically — it belongs to a space where, roughly speaking, one price reigns. To speak more exactly, each firm has its price. Even in a régime approximating to competition, each firm does not have exactly the same conditions of production, or sale, or cost, as the next firm. But it happens that various firms are placed in approximately the same conditions and set approximately the same price, for a clientèle situated at the same physical distance. Alternatively, firms placed in very unequal conditions regarding cost, can offer the same price for clients situated at very different physical distances. These firms are in the same economic space, whatever their coordinates in everyday space.

I think this analysis is sufficient to show to what extent, in spite of centuries of economic teaching, the present conceptions which inspire our decisions are rough and inadequate. It is not an exaggeration to say that we are still obsessed by *everyday space* and *everyday localization*. This obsession results in troublesome and even tragic consequences; it maintains and aggravates disputes of a territorial nature at a time when evolution itself demands that nations and classes should *devalue their frontiers* and, in so far as possible, harmonize those plans of employment of economic and human resources which *delocalize* not only the progress of our technique, but also the progress of our scientific conceptions of the world. The moment has arrived to provoke consciously *a change of visual angle*, to run systematically, knowing well what we do, counter to economic analysis which tries to determine the *place* and the *causes of the place* of an economic unit in everyday space.

I shall make a beginning towards this objective by examining



some concrete applications of the distinction between the three economic spaces: (1) space as defined by a plan, (2) space as a field of forces, (3) space as a homogeneous aggregate.

## II. SOME APPLICATIONS OF THE DISTINCTION BETWEEN THE THREE TYPES OF ECONOMIC SPACE

The spheres of application are innumerable and the choice of some of them, for brief explanation, is of necessity arbitrary. I do not think, however, that I can be reproached for having neglected the most serious and present difficulties if, as a test for my basic distinctions, I concentrate attention on two economic spaces: (1) *monetary space*, and (2) *national space*.

(1) The notion of monetary space, which of course must be understood for its own sake, also deserves to be scrutinized and analyzed because the effort clarifies such obscure and indeterminate notions as national money, supranational money, and world money.

Before 1913, when the gold standard was in force, the different national gold coins were not customarily used in the same regions of the world. The pound sterling moved about very generally. The American eagle and double eagle circulated in the Pacific regions or elsewhere with the trade of the United States. The Louis and the Napoleon, outside France, were encountered especially in the nations to which France gave loans. The places of actual use of gold coins were perfectly distinct from the places of *possible* use under the régime of the gold standard. Today the actual use of the check in Europe has spread but little into the countryside. The hoarding of notes and gold has different degrees and forms in the town and in the country, according to the period. The localization of monetary flow and monetary stocks in slow circulation or at rest, operate with reference to banal space. Their delocalization, which is the essential thing, is understood, realized and measured in quite other spaces.

In the first place let us look at a monetary space as defined by a *plan*. In this sense, the monetary space of a unit is formed by the relations which constitute the plan for employment of money by this unit. There are plans for employment of money by individuals, by monetary centres and by states. Money is internationalized or delocalized according to the extent to which the various plans of employment are compatible; and they are rendered so to a practicable extent by conscious organization and not by the mechanical moving of metal in banal space. The monetary space which is nationally or imperially self-sufficient is the work of a state which arbitrates in its proper interest, that is to say by reference to its proper plan, the plans

for employment of money by individuals and groups on which it exercises its authority. The monetary space of a monetary union or of a monetary agreement is the work of states which in principle leave to contractual laws the task of easing the compatibility of their own plans for employment of money with those of their subjects; in fact dominant plans exercise their partially irreversible influence over dominated plans. The monetary space of the gold standard itself, in its heyday, resulted from the action of dominating monetary powers and from their rules of the game.

A single plan of organization for the employment of money was supposed to reign over the whole of the planet. The moneys exchanged with one another on the basis of their metal content. This all took place as if a world central bank with national branches compelled the parties to accept convertibility and multilateralism. In fact, as is well known, it was very much otherwise, and the practical functioning of the gold standard was conditioned by the action of monetary powers unequally dominating and dominated — so much so that the monetary space of the gold standard was always in some degree that of one or of several dominant economies. The delocalization of money is all relative for this main reason, that in an economy based on the competition of individuals and of groups, the plans of monetary employment cannot be made entirely compatible, either by the application of the rules of the game or by the pressure of a *de facto* immovable sovereignty. It would be useless to repeat this, if one did not still find economists who have confidence, or pretend to have confidence, in the application of out-of-date rules of the game or in the effect of a *de facto* authority for the long-term internationalization of money.

Monetary space as a *field of forces* is not easily understood if one is in the path of the forces; it is seen more easily in terms of a “network” (in the mathematical sense) of payments, or by means of the description of monetary flows. A centre (or pole) has then to be chosen, from which one draws the “network” of payments towards or from other centres; or from which emanate, and to which come, monetary flows. The most significant of these “centres” are complex aggregates of monetary and financial organisms — the “places.” The monetary flows attracted towards or issuing from one of these financial “places” of the nineteenth or twentieth centuries, the variations of their direction, their composition and their volume, actualize a monetary space which is not totally independent of the one described as defined by a plan, but which cannot be approximated or reduced to it.

The history of the sterling area — at one time unofficial, at another time armed with official and authoritative institutions — illustrates well the interference of monetary plans of organization with the proper powers of attraction of a financial place. Money can be delocalized for a large number of transactions, either because one place exercises in regard to the world a role centralizing the supply and demand of currency and the collection and redistribution of the means of settlement, or because several financial centres play this role, each in a sphere and with the means to form a relatively harmonious aggregate. In an economy which is based on the competition of individuals and groups (nations) it is vain to hope, in this respect also, that there should be a perfect delocalization of money. None the less, our method reveals the ambiguity of the idea of international monetary space and international money. International currency is, in one case, a dominant national currency, and in another, a currency dealt with by a number of places of comparable power and harmonizing policies. The discussion on the key currencies and the “modest” success of Bretton Woods in the control of devaluation has very likely some relation to this sort of interpretation.

Finally monetary space conceived as a *homogeneous aggregate* suggests an almost perfect international currency market and an approximate unity in exchange rates. Theoretically this would be the monetary space of a gold standard functioning without resistance or friction. Actually, we see areas where currencies exchange for each other under market conditions which are not too imperfect, and where the price of one currency in relation to another is relatively uniform. History has recorded in this respect only international monetary spaces insufficiently homogenized.

The distinction between the various economic spaces dissipates the illusion of an effective and complete internationalization of money, but indicates how a *practicable* internationalization can be obtained: by making compatible the plans of monetary employment and harmonizing the influences of dominant monetary centres. It also allows one to judge rightly autarchic spaces which do not venture to give their real names, but which hide under the label, as ambiguous as it is out-of-date, of “European Federation.”

(2) The outlook is broadened when *national space* is submitted to analysis, that is to say when one attacks, by the means which it offers us, the ambiguous concept of nation, with its doctrinal and practical errors, in the world economy.

By its actual growth, and by the states of mind which it has

encouraged or even created, the nation has given rise to, and kept in being, the *illusion that the various human and economic spaces are superimposable*.

The French example is typical. For many of our countrymen, France is a political space which coincides more or less with a cultural space and with an economic space. French men and French objects are *contained* in a *container*, of which the contours are the frontiers. Some nationalists become excited at the idea of this picture. They go into ecstasies over the hexagon, lauding its proportions, its unity, rejoicing in the "equilibrium" of the continental and sea borders, the beauty of mountainous swellings and navigational arteries. Within the hexagon a political system reigns; its limits are those of "liberty." A "balanced" economy is supposed to exist there, with suitable proportions between agricultural and industrial sectors, heavy industries and industries for consumption goods, etc. The frontier becomes the limit of a sort of masterpiece, too perfect to be anything other than static. The celebrants of this cult of the bounded field, full of piety for the object which they are embracing, are unaware of the impiety they show to the objects they forget. Thousands of Frenchmen live and have died outside of France: the "ashes of the dead" which "have created the country" are not concentrated in a basement. The space where French ideas, traditions and feelings are present, overflows in all directions the metropolitan space. The French economy, to the extent that it maintains its health and vitality, is outside France, as well as in France. Banal localization obscures the unforgettable pronouncement of Renan that a nation is a "spiritual principle."

But, let us close the parenthesis. Let us return quickly to the purely economic analysis. In all its forms, even the most modern, analysis has interpreted the nation as a fact of *localization* in banal space. It has been powerless to put in evidence the phenomena of *delocalization*, which do not appear except by examination of the economic spaces which we have distinguished. It has, by doing so, aggravated the tyrannies of localistic interpretation to which we are so spontaneously inclined, instead of freeing our minds and enabling us to see the error of the views according to which a national economy is contained in a place. Only liberalism, in the vigor of its development, understood the fruitfulness of the delocalization of economic activities. But it has not taken the whole advantage of its intuition, and has left to the free play of prices the task of harmonizing the plans of both individuals and groups, whereas conscious decisions are necessary to harmonize the plans of groups, especially national

groups. Of course, the economy appears as a matter of localization if one choses to interpret it by reference to banal space. It is then easy to say what is "within" and "without," "domestic" and "external." This way of looking at it will be made into a more or less elegant concept, and, no doubt, one would surprise many of the most up-to-date theoreticians of international trade by telling them that they have not been able to break completely with the naivetés of organicism. Nevertheless it seems to be so. For, to organicism of all forms, the nation is essentially a "big individual," a collective entity which takes up a certain space. Thus there is installed in economic thought an unconfessed autarchy, close to the very concept of the nation. Even though one should go on to observe that any of the functions of this organism (defence, production, consumption) are not formed with reference to men and objects assembled and organized in a territory, the vice of the original thought would not thereby be eliminated. The collective indifference curves (isosatisfactions and isocosts) drawn for a whole nation, about which a literature is accumulating, refer to a "big individual" who has an aggregate of tastes, disposes of a stock of goods, indulges in productive plans and sometimes possesses bargaining power against other "big individuals."

In addition, recent analyses treat the nation as a local complex of factors of production, of which the contents are determined by the relative supplies of these factors contributed by the various nations. National space in all these cases is treated as "contents" which have a "container." The customary analysis binds its conclusions to a banal space, bounded by political frontiers, thus *accepting fundamentally the very limits which ought to be devaluated*.

The analysis which I am suggesting develops in the opposite way. The economic spaces with which it is concerned give the nation an image which cannot be given by any cartography because the relations which compose them are largely independent of banal localization.

The space of the national economy is not the national territory but the domain covered by the economic plans of the government and of individuals. (Note that we do not speak of *the* economic plan of the nation, which would bring us back inopportunately to a "big individual.") These economic plans, even under a liberal régime, are variously dominant and dominated and usually incompatible one with another. The internationalization of these spaces does not consist, then, in a redistribution of resources amongst national spaces, nor in an addition or combination of national spaces. It consists in making the plans of governments and of individuals compatible so

far as possible. This effort raises all the real difficulties; it indicates also all the real results. The difficulties exist, whatever the outlines of frontiers; *theoretically*, the results can be attained between countries which accept the essentials of the market economy, without alteration of frontiers.

Economic space being in other respects a *field of forces*, the nation is presented either as a place of passage for these forces, or as a set of centres or poles from which emanate, or to which go, certain of these forces. According to the domain of the concrete economy, the nature of the activities considered, and the period, national spaces take an *essentially variable* meaning, which can never be made precise by their outline or by their container.

Finally economic space as a *homogeneous aggregate* allows the measurement of the effect of the expression "national market," or "national level of prices." The nation creates by its growth and by its policy relatively effective conditions of the market and of the formation of prices. But, except in the case of integral planning, national space is an inextricably woven network of national and international markets by categories of products and services, of prices fixed by data given by national space, and of prices determined by elements external to the national space and to spaces of the economic plans of the Government and of its nationals.

If one applies the analysis here outlined to a group of nations (why not Europe?) one is radically cured of the seduction of European economic space, of the great nation of Europe, and of the great European market and even of the "liberal bloc." One distinctly perceives the difference between an economic cooperation which *devaluates* frontiers and one which pretends only to move them back; between a helpful empiricism which frees trade in and *around* the nations of Europe and a so-called federalist doctrine which only lowers the obstacles to trade inside by transferring them to the circumference.<sup>3</sup>

The European economy like all other economies is not localizable and the policies which forget this truth are harmful.

The extension of abstract spaces to economic science will probably react upon its further development; it will also make its previous development clearer. It will act on the future, it will give new color to the past, it will develop effects downstream as well as upstream.

3. In order to make the ideas on this point precise, the table (page 103) shows the contrast between two very different groups of associated decisions, which, unfortunately, are evoked by one and the same expression, that of European Federalism (or European Union).

Amongst the upstream effects might be indicated the relatively new understanding, and the generalization, of some of the classical propositions of liberalism. How I wish that a short history of liberalism would be written from the angle of the dissociation of economic and human space, or if you prefer, the *delocalization of units and economic relations!* Perhaps one would draw from it the conclusion that the most remarkable and essential contribution of liberalism is found neither in the emancipation of the individual nor in cosmopolitanism, as is often said, but *in a truly decisive intuition concerning abstract spaces in an epoch when their mathematical theory had not been initiated.*

The distinction between (1) spaces of political sovereignty, (2) spaces of judicial ownership, and (3) spaces of power of economic utilization, is the intellectual weapon by which liberalism has attacked the trickery and duplicity of economic policy founded on banal localization. It has understood that the "normal nation," or more widely the "normal economic unit," is not that which is "self-sufficient," but better that which, if it happened to disappear, would make the

#### "European Union"

##### A. As an enlarged nation

##### B. As a devaluating of frontiers

#### *In the economic field*

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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| (1) Europe is bounded by customs barriers or by preferential tariffs.                                                                                                                            | (1) The nations of Europe reduce protection amongst themselves and also to extra-European nations.                                      |
| (2) Europe is composed of complementary parts, or of parts becoming complementary.                                                                                                               | (2) The complementarities, valued on a world scale, can be revised, and are plastic; they are not fixed in any institutional structure. |
| (3) Europe allows the free movement of men, goods and capital within its borders but regulates it to the rest of the world.                                                                      | (3) The nations of Europe progressively give up the regulation of these movements amongst themselves and to the rest of the world.      |
| (4) Europe has <i>one</i> network of transport, <i>one</i> currency, <i>one</i> army, etc.                                                                                                       | (4) The nations of Europe use a world money, intercontinental networks; they participate in a world army.                               |
| (5) The economy of the great European nation carries out communal services, enlarged markets, concerted measures for the improvement of productivity in the same way as does a great enterprise. | (5) The economies of large scale are realized through groups of activities and not by groups of nations.                                |

#### *In the political field*

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| (1) Europe becomes a third "Big Power."                                                                                               | (1) The European nations propose to make bargaining power useless in the international order or at least to restrict its importance.                            |
| (2) Europe hopes or pretends to think that it is in a situation to "arbitrate" the possible conflicts between the other Great Powers. | (2) European nations take the political decisions necessary to ensure the maintenance of peace and the defence, in peace or war, of the values of civilization. |

#### *In the spiritual field*

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|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (1) Europe has a table of European values; it strengthens the feeling of "European" values; it is a "European nation." | (1) The European nations have a table of "human" values, they affirm that the cultural problems of the twentieth century cannot be posed or treated on a European scale; they refuse to add to the nationalism which rends the world, one more nationalism. |
| (2) Europe thinks or pretends to think that nationalism with an enlarged base loses its virulence.                     | (2) The European nations know that large nations are not less dangerous to the peace of the world than small ones.                                                                                                                                          |

others "inadequate." It has, facing the difficulties of its time, traced the route by which we can pose and resolve *the* problem of our time, that is to say, *transcending the nation and the national economy*. It has done this by means of a theory, more or less implicit, of economic spaces and human spaces which must now be revised and developed with the intellectual tools of the science of the twentieth century.

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