

CONTEMPORARY GEOPOLITICS
AND THE GEOGRAPHICAL
FRAMEWORK

During the first half of the twentieth century geographers analyzed at length the individual's relationship with his natural environment. The French school of humanist geography must be credited with stressing the influence of environment which, in proportion to its pronounced characteristics, becomes more and more powerful. Thus we came to understand the causes which determine a way of life, the customs, psychology, and idiosyncracies of those who inhabit the mountains, plains, forests, deserts, or seas. Our task has been a more daring one: we have studied the relationships established in the past between a certain geographical environment and the civilizations which formerly flourished there. In recognition of their meaning we labeled these relationships "geopolitics." The term, coined by the German school, enjoyed a tremendous vogue because it was so apt. However, as critics have amply demonstrated, of and by itself it was really meaningless because the subject matter with which it must be concerned belonged to other, previously established and independent disciplines, such as economics

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or political geography. An inexact term, the word "geopolitics" crept into our present-day language. We, however, have chosen it to designate a determinate historical relationship.

The civilizations which, in earlier times, succeeded one another over a vast region of the earth were always distinctive because of certain conceptions that were peculiar to them. Among these many civilizations, it is easy to isolate a small number that were dynamic in nature and endowed with attributes which, together with their geographical setting, produced decisive relationships in the social realm. We shall cite one example to make this clearer.

THE GEOGRAPHICAL SETTING

When the period of Spanish colonization ended, there were almost fifty million horned animals roaming freely over the plains of South America. At that time it proved impossible to exploit this wealth. The "gaucho," who was inclined to be greedy, selected for his lunch a cow with calf from among the herd, killed it, ate the unborn calf and left the remainder to the vultures. Rio de la Plata's viceroyalty was one of the poorest in Spanish America; Buenos Aires was a very small city.

THE "IDÉE-FORCE"

In 1820, inspired by concepts of the principles of chemistry which had been studied at length during the two previous centuries, Jean Leslie (1766-1852) of the University of Edinburgh hit upon the idea of "making nature work" in a special way by forcing it to produce cold. Thus he achieved the conversion of water into ice. His experiment met with resounding success, and little by little during the course of the nineteenth century it was perfected in the laboratory. Between 1890 and 1900 a refrigeration industry was set up which soon produced results.

THE GEOPOLITICAL RELATIONSHIP

Thereafter society had to play its role. Businessmen soon realized the profits that could be made if they could send to Europe the frozen meats obtained from the gigantic herds of the pampas. Powerful companies were organized, and the features of this region began to alter. Whereas until then animals had been free to follow the caprices of nature, cattle-breeding now became an industry. Properties were sub-

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divided by barbed wire, pits were dug, enormous cow sheds were built, trees were planted near houses, and systems of communication were improved. Within fifty years Buenos Aires was transformed into a city of more than four million inhabitants.

The advent of some technical idea is not enough to establish a geopolitical relationship. Such an idea must possess a particular attribute and a force that is sufficiently powerful to impel man to initiate a modification of his geographical environment. At the beginning of historical activity and for a long time thereafter a natural landscape slowly became transformed into an artificial one. But, in the course of time, artificial landscapes succeeded one another. This is so true that today the geographer is obliged to travel to the most remote corners of the planet in order to discover and enjoy a truly natural scene.

Furthermore, it seems obvious that to become really widespread, an idea must be representative of an entire culture. Leslie's successful laboratory experiment in producing cold could not therefore have originated independently in his imagination, granting, even, that genius accompanied him. This experiment, which today seems quite simple, was at that time the result of a scientific effort inspired by the multiple discoveries of the seventeenth and eighteenth centuries. Thus, the *idée-force* was characteristic of a society; and since the geopolitical relationship, by virtue of its abstract quality, was applied fruitfully in time and space, it was legitimate to conclude that every civilization of the past had had its own geopolitical relationship.

A corollary presented itself, however, in the form of an inexorable deduction. Should not our epoch also be distinctive thanks to determinate geopolitical relationships? If it were possible to isolate them plainly, would not the analysis of these relationships lead to a better understanding of our present-day society, which is so complex and revolutionized? This seems altogether possible. But, in order to perceive the influence of geopolitics upon the contemporary world, one must understand its historical evolution and thus be in a position to clearly fix the exact and decisive stage of its relationship today. For this relationship, because it is based on an *idée-force*, has been subjected to the consequences of a transformation in thought, society, and civilization. And, on the other hand, the pillar of the structure, which rests on the geographical environment, has been further subjected to natural contingencies which can modify it and whose atmospheric variations are

of the greatest importance. Consequently, the evolution of the geopolitical relationship proceeds either through the *gea* (earth) or through the idea. In the first instance, the landscape changed because of a modification in the climate;¹ in the second, the agency was a new scientific concept, the perfecting of a technique—in short, the general evolution of the civilization in question.

1. The transformation of arid or semi-desert regions into irrigated lands was the consequence of a geopolitical relationship that depended on a change in the climate. However, a geographical setting eroded by aridity must once have possessed some favorable geophysical factors: a peneplain or a riverbank situated on a lower level and downstream from a narrow inlet or a natural river bed—something that obstructed the flow of water.

On the other hand, the society under scrutiny must itself have been distinctive for its knowledge of geometry, which was indispensable in order to construct a wall and water mains for the free flow of water through dry lands. The relationship between the mathematical idea and the *gea* thus led to a transformation of the countryside, to the production of new wealth, to a renewal of life, and perhaps to the birth of a culture. But the decisive effect of such a vast undertaking was conditioned by the advent of an aridity which destroyed an earlier flourishing agricultural structure. Today, to be sure, thanks to our modern technology a desert can be converted into a garden; in ancient times such a radical, artificial change in the geographical environment was impossible to achieve except in very special cases—such as Egypt, for example. Given the rudimentary means of earlier days, it was not feasible to undertake work on such a large scale or to concentrate large masses of people with the rapidity that such operations require. Consequently, in the past the transformation of the countryside through the agency of this relationship was accomplished very slowly. During the Roman epoch Andalusia was adequately irrigated and therefore no one dreamed of building large dams; but from the thirteenth century on it became progressively drier, and a good deal of construction was begun and is still going on.

1. We have done lengthy research in the evolution of climate in history, studying in particular the crisis the Iberian peninsula experienced during the sixteenth century. See specifically *La decadencia española*, Vol. IV (Madrid: Editorial Mayfe); *El paisaje macheo en tiempos de Cervantes: Anales Cervantinos* (Madrid, 1953). There are résumés in French in our *Historie d'Espagne* (Éditions de Paris, 1958).

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2. The geopolitical relationship can also become modified owing to the advent of a fruitful principle. The industrial revolution is a striking example of this. In ancient times metallurgy always depended on the following trilogy: the *idea*: the art of building a furnace that would provide sufficient heat to melt cassiterites, pyrites, iron ore, etc.; the "*ged*": a region where these deposits were to be found, specifically in the proximity of forests that were vast enough to supply large quantities of charcoal—the only fuel that was known at that time; and the *relationship*: the copper, bronze, and iron civilizations. In our own times this relationship developed amply in certain regions. Andalusia, which possessed a very important metallurgical industry, lost it at the end of the Roman Empire because of the effects of its climate. The crisis, which was caused by a decrease in rainfall, denuded the forests of their large trees. Much later the industry moved to the north of the peninsula, on the Cantabrian coast where the streams flow down from a short range of mountains overhanging the sea; this range abounds in iron mines and is covered with imposing clumps of beech and chestnut trees. The waterfalls, which can easily be harnessed, set in motion the machinery necessary for the production and conversion of steel. In 1713 an English clergyman discovered that anthracite could be treated and transformed in such a way that it was more profitable to use than charcoal. This substitute was coke. The old magic circle—iron, forests, streams—was broken. Thus the metallurgical industry moved toward regions that lent themselves to the application of the new process; moreover, the British coal fields happened to be near the ocean, which was very convenient from the standpoint of transportation. The industrial revolution had begun.

We can now readily understand the involvement of this geopolitical relationship in the evolution of modern times.

During the period of the Napoleonic wars England alone produced more iron than all the other European nations combined. The old economic structure collapsed. Thanks to this relationship, Spain enjoyed for a long time a superiority which rendered possible her formidable naval and military hegemony. Now, however, she found herself outclassed. The same was true of both the Mediterranean and central-European regions. During the first half of the nineteenth century, when stratigraphy became an independent science, the resultant technological advances paved the way for the sinking of deep mine-shafts in the coal-

rich regions of the Continent. An important industry was established in Germany, Belgium, and France, close to the great rivers; it succeeded in counterbalancing the lead taken by the English. Thus northern Europe, in possession of heavy industry and coal, the latter the only available source of energy, acquired extraordinary power. It became the undisputed master of the Continent.

Toward the end of the century the position of northern Europe grew weaker. Coal fields were discovered in the United States in the Great Lakes area and in the Appalachians, in the Donetz area in Russia, and in certain regions of Siberia, Manchuria, Japan, and China. These coal fields were considerable in size and close enough to iron mines to give rise to a flourishing heavy industry, which rapidly developed a tremendous rhythm, especially in America, where the coal deposits were far more abundant than elsewhere. The layers were so thick that large-scale efficiency machinery, unknown to western Europe, could function at full capacity and thus reduce the cost of production. It was in this way that the United States achieved first place among the steel-producing nations, with the Russians following closely. Europe lost its former position of superiority.

And this was not all. The Mediterranean, then the West, witnessed the disappearance of the supremacy enjoyed until then by the maritime nations, which had made them commercially pre-eminent for centuries. Throughout the past progress was achieved very slowly. It could not be otherwise because man lived as a prisoner of his geographical environment, from which escape was difficult. Mountain chains, deserts, rivers, the dreaded sea—all these constituted almost insurmountable obstacles. Isolated from one another, people vegetated, and any exchange of ideas could be achieved only very gradually. This explains the slow awakening of humanity and the millenniums that had to elapse before the advanced civilizations of antiquity could be absorbed.

The rate of progress quickened when the Phoenicians adapted for use at sea the craft devised by the Egyptians for navigation on the Nile. Living in an auspicious geographical environment—the Aegean Sea is full of little islands that make possible a one- or two-day run—and possessing a knowledge of astronomy acquired from Babylonian scientists, they learned to sail over the boundless deep. From then on maritime communications grew rapidly and soon surpassed those proceeding overland. Commercial activity and an interchange of ideas followed.

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The Mediterranean thus became the locale of great civilizations.

Supported by fresh knowledge in astronomy and mathematics, which paralleled an improvement in the techniques of ship-building, the art of navigation developed into a science. This in turn made possible the discovery of America. Thereafter the axis of human activity shifted. The Mediterranean began to decline. The coastal areas of the western Atlantic inherited all the advantages of an extremely favorable position. At the end of the eighteenth century the science of navigation was transformed into a simple technique, that is to say, into a more accessible key to transportation; and this occurred at the very moment when the industrial revolution was beginning in these regions. Thus, heavy industry was established in countries that were either close to the pre-eminently commercial sea or in communication with it by virtue of the proximity of large rivers. The construction of a large network of canals made the position of these countries even more auspicious. In short, the geopolitical iron-coal relationship came to assume an extraordinary importance thanks to the development of maritime communications. This proved detrimental to those regions of the Continent that already suffered from a lack of overland communications.

Hence, ever since the dawn of antiquity, it is in areas close to the sea that civilizations have always flourished. One has merely to unfold a map of the world to realize this. Ancient history, human geography, political economy—they all point to the supremacy of maritime regions; and modern history apprises us of Russia's effort to secure an outlet to the sea. This situation is today, however, in the process of alteration.

As early as the middle of the nineteenth century a real revolution in land transportation commenced. We must not lose sight of the fact that ever since the days when great highways were built human relationships everywhere had scarcely changed, despite the progress achieved in other sectors, notably those having to do with the sea. Napoleon's soldiers moved at the same speed as Caesar's legions in spite of an improved technology and the knowledge acquired during the century of the Enlightenment. But in 1840 the situation began to alter. The era of railroads was inaugurated. Thereafter communications multiplied at an accelerated rate. Commerce, industry, human contact, the exchange of ideas—all these proceeded with an intensity before unknown.

However, these new advantages could not as yet transform the geopolitical coal-iron relationship in regions rich in coal and abounding in

maritime and river communications. Cargo ships and barges, because they were cheap, retained their primacy in the transportation of heavy goods. This primacy was aided by the fact that an extensive and rapid network of railways can operate only in level areas. Most of the coal regions were not disadvantaged thereby, for the layers that had formed during the coal age, millions of years ago, precisely because they were so very old, were to be found in the peneplains, that is to say, in eroded regions honeycombed with Hercynian folds that once constituted a chain of mountains which have since disappeared. All that remains is coal and a surface track. In other words, the first railways, far from being harmful to regions favored by the coal-iron relationship, enhanced still further the privileges that a tremendous prosperity had bestowed on them.

On the other hand, mountainous regions, particularly areas where an ancient orography did not permit the existence of deep valleys, were plainly in a position of inferiority. Thus the Pyrenees contrast with the Alps. The situation became far more serious as regards high plateaus which cover—this we must not overlook—a large part of the earth's surface. Here, the railroad that starts from the seacoast or any seaport must scale steep mountainsides. The cost is so high, at times even prohibitive, that a heavy traffic is out of the question. During the nineteenth century, railroads were constructed in France at a cost of one hundred thousand gold francs per kilometer. In Spain, which is a particularly hilly country, the cost was five times greater. For analogous reasons, the most important regions in Asia and America could not compete with Europe.

Thus Spanish America lost the supremacy it enjoyed during the eighteenth century. At that time some of its viceroyalties significantly surpassed the small European nations; their capitals counted as many as one to two hundred thousand inhabitants. New York had a population of only forty thousand—a mere village. But during the nineteenth century all of America was dependent on the coal fields discovered in the Appalachians and in the Great Lakes regions. This explains why, during the Civil War, the agricultural South could not defend itself against the industrialized North. The same disparity existed in Asia, but on a smaller scale, of course, because economic development was not as advanced. China and Central Asia were unable to compete with the Siberian steppes and with Manchuria. As railroads improved, how-

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ever, an evolution ensued that completely transformed Continental communications.

Competition began when the first railroads were built. The maritime and river routes no longer enjoyed a monopoly. The first railroads, which traversed long stretches of land, were more expensive but faster than water transport. However, they could haul only light loads. The introduction of electricity increased both their capacity and their speed to an unprecedented degree. An electrified line was of course faster and also more convenient than river transportation, which was slow and required long and complicated operations. Recently, railroad transportation has expanded at an extraordinary rate, thanks to greatly improved freight cars and locomotives. A few years ago a steam engine could haul some six hundred tons. Today, a Diesel or electric locomotive can pull freight totaling as much as four to six thousand tons and can, in addition, be automatically loaded and unloaded. Thus the railroads can transport more tonnage than a barge and as much as a cargo ship. Moreover, they can do this with greater speed and in areas that are not favored by peneplains, seas, or the coal-iron relationship. This relationship became so widespread that it proved easy to set up a "combine" between very remote mines and those that were centrally located, and, in turn, made it possible to build an important, complex industry on a certain site chosen for reasons of expediency rather than imposed by geographical determinism. Thus systematized, the geopolitical relationship could be attained to further a strategic concept, control a market, or simply to promote industrialization. The Russians organized an important metallurgical industry in Siberia, and its success was far more revolutionary than the events of October. The old industrial hegemony of the privileged maritime regions was overturned.

On the other hand, currently there are symptoms that point to the possibility of an alteration in the coal-iron relationship which are comparable to developments of the eighteenth century. We are referring to the discovery of new sources of energy—the multiple uses of electricity, the exploitation of deposits of natural gas, the manufacture of industrial gas and the long-distance conveyance of this gas by pipe lines, and, finally, nuclear energy.

Appearances notwithstanding, from the standpoint of the coal-iron relationship the gas industry is far more revolutionary and more constructive than atomic energy. Unless we are greatly mistaken, atomic

energy, at least until now, has been successfully used as a substitute for coal solely in producing the steam that drives turbine motors, and steam is a source of energy that is today outmoded. To really alter the coal-iron relationship, it would be necessary to produce steel by means of an agglomeration of molecules, without using coke or a blast furnace; this might be accomplished with the aid of a process currently under scrutiny or by imitating a method that is now being applied in certain specialized industries. Regardless of whether this would be feasible in the near future, the existing metallurgical industry is doubtless falling into disuse owing to the coal-iron relationship. Very soon coal of every kind will be distilled, not burned; and since gas can be conveyed over long distances (in the United States this is already being done), heavy industry will be dispersed over the entire surface of the earth instead of being concentrated in the most propitious areas. Soft iron ore, which can be treated by oxygenation or by some other method, is abundant. According to the same economic principle, it could be used to convert peat and lignite into gas. Our present-day blast furnaces, with their cumbersome appliances, would no longer be necessary. The enormous concentrations of population would split up. Work would become enjoyable. Large-scale automation would disappear. So would smoke stacks, with their thick clouds of soot. Large-scale heavy industry would cease to belong to the privileged few; it would be available to everyone.

Light industry, which was likewise dependent on the coal-iron relationship, had been developed in the same propitious regions because it needed coal as a source of energy. Moreover, railway transportation imposed a limit on its geographical dissemination, and the proximity of large sea ports conditioned the export of the finished products. But when large dams were built to produce electricity, the situation began to change. Whereas during the nineteenth century light industry had been concentrated in the coal regions, later a large-scale decentralization took place; this process was accelerated by the two world wars because many extra-European nations were obliged to build, sometimes because of state intervention, the factories they badly needed. As a result, light and semi-heavy industry was widely dispersed. Some people may cling to the delusion that industrial regions still control the market thanks to retention of the raw materials—coal and steel. As we know, nowadays this is definitely no longer the case; industry in general is freeing itself

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more and more from geological and geographical determinism, to the detriment of the old monopoly.

We must therefore conclude that the geopolitical relationship, which in the past gave rise to the metallurgical industry and during the nineteenth century conferred a tremendous preponderance upon certain European nations, today seems to have reached the end of its evolution. Initiated during the third millennium in Asia Minor and in Andalusia, it developed in the course of time in keeping with the nature of the combustible. When charcoal was used to feed the furnaces, the relationship was determined by geography: large forests and climatic changes. When coke replaced it, the relationship depended upon geology. Thanks to new methods that are emerging today and are being used more and more, geophysical determinism, which tyrannized over impoverished societies, is on the verge of being shattered. A new era is emerging. The *gea* will no longer impose its laws; the idea alone will be decisive.

A similar conclusion could be reached by analyzing other geopolitical relationships which have had a decisive importance in the past and which today have assumed considerable scope. The problem of irrigation, for instance, seems as striking to us as that of heavy industry; for we must not forget that irrigation once made possible a concentration of population, wealth, and power that transformed certain countries into first-class nations.

In the course of his millennial struggle to master nature, man succeeded in perfecting certain processes that enabled him to increase the yield of his land, of which irrigation has always been the most important. This very ancient geopolitical relationship has rendered service ever since the third millennium. But nowadays a profound change has come over the application of techniques for diverting a stream or constructing water mains. The use of cement for the construction of giant edifices, the appearance of new machines, and the benefits of additional experience have made possible outstanding feats in the building of dams and canals. The latter are as important as rivers because they can span the most difficult natural obstacles with the aid of enormous bridges, tunnels, and channels. Similarly, ways have been found to transport water over considerable distances. Like the modern "combines" based upon the coal-iron relationship, the geopolitics of irrigation has been immeasurably expanded throughout the world. Today,

land is irrigated hundreds of kilometers away from the source of supply, a feat that would have seemed fantastic only a few years ago.

And so we find ourselves facing a new situation. One thing is certain; in some geopolitical relationships the scales definitely incline toward the idea, to the detriment of geophysical factors. This is the consequence of man's extraordinary effort during the last few centuries. However, are we warranted in generalizing about the problems that have to do with changes in the geographic environment, viewed as a whole? In other words, can this geographic determinism, which has weighed so heavily upon the fate of humanity, be attenuated, if not altered, today or in the near future?

It would be an exaggeration to say that, beginning with the time when he first discovered how to cut stone, man has evolved to the point where he completely masters nature. We can only assert that progress has become so rapid that we have now reached a decisive period. We are beginning to perceive the final phase of mankind's tenacious struggle. Certainly in many respects, as exemplified by the geopolitical relationships we have just described, the environment has been mastered; but in other regards the struggle is far from over. This is true, for instance, about the application of human ingenuity to the development of arid lands that constitute so large a part of most continents.

A majority of the world's population is today undernourished. It not only has a diet that is too low in calories, but in addition it cannot procure the protective foods, those that are rich in vitamins and give the organism enough strength to overcome disease. And on the basis of inferences that may be drawn from our present scientific knowledge, it does not seem possible that this situation will undergo any radical change in the near future. This is due to the ever increasing expansion of arid and sub-arid lands, to a decrease in the fertility of productive areas, and, inversely, to a disproportionate rate of increase in the population.

Irrigation could prove to be an effective means of augmenting our food supplies in the future, just as it proved to be the basis of antiquity's great civilizations. We have here, however, a structure that is not susceptible of infinite alteration. The hydraulic reserves and the great rivers, whose strategic location makes possible the establishment of the relationship, are limited. The irrigation of new lands will have a bene-

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ficient effect on the requirements of certain regions, but it will prove incapable of solving mankind's general problem.

At the present moment such a solution does not seem to hinge on an extraordinary extension of classical geopolitical relationships. During the burgeoning of our emergent civilization, the *gea* becomes immobile, but the same cannot be said of the idea, which has attained in our time an unprecedented effervescence. This development might conceivably serve as a basis for the formation of new geopolitical relationships. The consequence could be a new and industrially rewarding method of treating water destined for the irrigation of certain countries. In addition, discoveries in the field of plant biology might revolutionize the utilization of arid lands.

The world is seething with possibilities; but in our opinion one reality exists today which cannot be overlooked: the extraordinary development of communications. The means of transportation are basic to every transformation of a backward area, and hence of its agriculture. Without such transformations it would be futile to expect a reasonable output from modern technological devices. Moreover, the extraordinary ease of present-day travel has made possible the rise of a new outlook which will condition life in the future.

Everyone knows the important role played by commercial interchanges and by intellectual and personal contacts in the historical evolution of ideas. The deterioration and resurgence of civilizations, the increasingly intensified succession of higher ones, and the critical spirit which destroys legends and prejudices have always been determined by the state of communications. By observing others, one comes to know one's self. Shortcomings get to be so conspicuous that it is easy to uncover them. The idiocy of certain outmoded actions or ideas emerges when they are contrasted with the customs of others. Contact with a distant and superior idea gives rise to a response: a synthesis results from this dialogue and new horizons appear. But in the past this sequence has always proceeded with discouraging slowness. Yet its tempo has been quickened by the development of the means of communication during the last two millennia. This acceleration is due mainly to travelers. According to Montaigne, to travel is "to rub and sharpen one's brains against the brains of others."

Thus historians have amply demonstrated how much the evolution of ideas during the Middle Ages owes to the contact between the Cru-

saders and the Orient and to the encounter of Andalusian civilization by pilgrims bound for Saint-Jacques de Compostelle. On the other hand—this has certainly been true until our own time—the masses almost never moved about. The sedentary farmer hardly ever strayed off his lands. But we are witnessing something new. Ordinary folk are beginning to travel in considerable numbers. They are not seeking far away places to settle down in, as emigrants have done, in order to make their fortunes in a more favored spot. Rather, they travel to become more familiar with places near their own homes and even venture to foreign countries; but they return and enjoy discussing their impressions.

This is but the beginning; it is altogether possible that in the future tourist travel among European nations will expand and become organized on an inter-Continental level. With communications more accessible, men will tend to become more unified, to attain a greater harmony among themselves. We can assert once again without any equivocation that in this sense a new epoch is opening up before our eyes: a truly international way of thinking that will impose itself more and more on routine intellectuals, on modes of thought, and on provincial prejudices.

The internal combustion machine caused the real revolution in transportation. Railroads had already given impetus to such a trend. But, except for certain specific regions where the railway network was the most dense, cars were merely substituted for stage-coach carriages, and they served a very small number of people who traveled long distances. The compartment had inherited the closed interior shapes of earlier times; save for those who lived near large capital cities, farming or working-class people rarely used this mode of transportation. To take a train was an important event. At a time when large, fast trains spanned all Europe and required several days to do so, only the rich traveled—and only those rich who had a penchant for the exotic. In short, tourists were a small minority.

The automobile brought a genuine revolution in the pace of human progress. It made possible individual autonomy on a scale hitherto unknown, as well as personal interchanges and contacts that had never before existed—or at least not to such an extent. Nowadays, in Europe and in America, the middle and working classes travel a good deal and sometimes they go long distances. This is an extraordinarily widespread phenomenon that will rapidly alter popular modes of thought. It is

well-nigh impossible to assess the repercussions it might have in the near future; but we can definitely predict that henceforward the intermingling of peoples, if it continues at the current rate, will result in a blending of minds from which will spring the *idée-forces* of the future.

This trend has been further accentuated by the tremendous acceleration which aerial communications have undergone in recent years. Aviation today plays a role comparable to that of the great luxury trains of the last century. It has resulted in swift and convenient contact between the most distant places. To be sure, the masses cannot as yet benefit by it, but it has enabled the elite of widely separate continents to exchange ideas more frequently than ever before. Moreover, the influence of aviation has assumed a surprising form that deserves a certain amount of attention.

The expense of building railroads in areas possessing a difficult orography—and this is true of most continents—had not served to encourage as much contact as that which existed between the peoples of the European continental plain. Thus, in spite of the railroads, mountainous Spain possessed poor communications until quite recently. Although she had improved them markedly since the era of stagecoaches, she was, compared to other Continental nations, definitely lagging. The same was also true in America and in Asia, but on a much smaller scale. It was both easier and cheaper for a resident of New York or Buenos Aires to know and enjoy Paris than to visit the large cities situated in the interior of his own country. Until the advent of the internal combustion engine, a trip across the Continent from New York to San Francisco represented quite an expedition, and certainly one that was more expensive than a holiday in Europe.

Today the situation has been reversed. The development of aviation has had consequences that occasionally surpass the impact of both the railroad and the automobile. Vast regions of Asia and America do not as yet possess either highways or railroads because natural obstacles make these too costly to build. It is the airplane which has opened up these isolated regions. Surprisingly enough, this is true of Spanish America. The tiny republics of the Isthmus of Panama have subsisted until now by maintaining their traditions and turning their backs to each other. Similar handicaps weighed heavily upon the internal communications of other countries situated further south; above all, the tropical forest constituted a formidable obstacle. It was hardly a pleasure

to traverse the four hundred kilometers or so that separate Quito, the capital of Ecuador, from Guayaquil, the equatorial port on the Pacific. The immense provinces of Brazil and Argentina were, so to speak, at the other end of the world. It took many days and great effort to get there. If, defying all geographical principles, the political unity of these countries has survived, this is due to the persistence of a deeply embedded culture for which three centuries of civilizing Spanish influence can take credit.

Aerial communications have radically transformed this state of affairs. In 1925 it took over a month to go from Buenos Aires to San Carlos de Bariloche, the capital of "Andean Switzerland." When, in 1930, the construction of the railroad was completed, it still took two days. An airplane made the trip in a few hours. This is but the beginning. Reciprocal contacts and the closest relationships are constantly being established. A new geographical structure, a different psychological climate, will materialize very shortly. The same kind of thing is true of other continents.

However, mind anticipates matter. The intellectual, surrounded by his beloved books, already possessed a general understanding of other nations. He had read the accounts of those fortunate enough to have traveled. He knew the globe's geography, and, if need be, he could consult charts and world maps. Occasionally he had even been able to perceive the essence of those civilizations that were located the farthest from him. Ever since the art of sailing developed in the sixteenth century the white man had traveled all over the world and established contact with the most remote regions. The intellectual minority could not go to see for themselves; but they entertained more or less exact notions about other peoples. This interest had further increased because businessmen launched vast enterprises, thus mobilizing technicians who learned to know and love these people. Technicians became more numerous after the advent of the steamboat; a more precise knowledge led to the disappearance of initial prejudices. Furthermore, to satisfy the exotic tendencies of a growing number of readers, the book industry reserved a large proportion of its lists for travelogues. The expansion of education served to encourage the dissemination of general ideas. Not only the elite but people generally began to become acquainted with one another.

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Within the last thirty years this trend has attained frenzied proportions. First, the newspapers began regularly to send their correspondents to report from the most remote corners of the earth. Animated illustrations followed this reading material. For the benefit of the masses the movies portrayed landscapes, scenes from daily life, festivals—all the folklore of peoples living in the antipodes. Soon radio, in its turn, intervened. One heard the strangest voices over the loud-speaker. The Westerner, who has not traveled beyond the seas, nevertheless knows nowadays how Russian, Arabic, and Chinese sound to the ear. Finally, television has brought into the home a picture of those events that warrant special attention. Within a few years all the important broadcasting stations located on the various continents will be working together so that each of us, comfortably seated in our own homes, will be able to view daily events on a world-wide scale.

We can therefore say that today we are witnessing the development of two phenomena that are extremely important for the future: a shrinking of the globe and a more powerful intellectual cohesiveness among its inhabitants.

We can readily deduce one immediate consequence: the civilization toward which we are inclining, this civilization which each of us in his own work is trying to construct, will depend on two factors of major importance: ideas conceived on a global scale and a new geographical framework. We are therefore justified in believing that sparks unknown in our times will burst forth between these two poles. Geopolitical relationships whose structures we are now incapable of predicting will constitute the foundation of a future society.