

FUTURIBLES

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The following paper is essentially a transcript of a lecture given by Bertrand de Jouvenel to RAND's Inter-departmental Seminar on November 30, 1964.

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## FUTURIBLES

I propose to avail myself of the opportunity which has been so kindly given to me, to bring you some information about a project, centered in Paris and called FUTURIBLES; and I hope to get from the discussion in this hot-bed of intellectual creation much inspiration and guidance for the pursuit of this project.

It is called FUTURIBLES which means possible futures, with an emphasis on the plural : what is implied by this denomination is our strong conviction that "the present state of affairs" has different possible descendants, is not a given merely unknown, but an outcome which may be this or that according to intervening actions.

FUTURIBLES is an international venture, governed by an international Board, which at present comprises American, British, Swiss and French members. Nationalities had nothing to do with the constitution of this initial group, formed on the basis of a shared purpose, which is to stimulate speculation about likely social and political changes. The venture has been made possible by the Ford Foundation.

What has FUTURIBLES done to date? It has obtained from experts in a great variety of fields, individual speculations on likely changes in the expert's field, either geographic, for instance the future political regime of Spain, Burma, etc., or functional, for instance the future of transports. Some themes are more general, such as the future of rural society, the future of the City of Science, etc. 83 such essays have been published to date, in French, channelled through a publication of which I happen to be editor, the Bulletin SEDEIS, which is in general a medium of documentation and discussion dealing with economic and social policies. A small number of the essays have also been made available in a volume published by Droz at Geneva.

I should make it clear that each essay is an individual's personal speculation, running to a minimum of twelve thousand words, but sometimes to as many as fifty thousand. Others now forthcoming are of book size. Later I shall mention the international conferences which are another form of activity.

What is the purpose of producing these essays? It is definitely not to assemble a lot of prophecies to be checked against actual occurrences at some future date. The purpose is to generate a habit, the habit of forward-looking. We feel that as this grows into a habit, we, or our successors, shall develop in this exercise greater skill, thanks to self criticism and mutual criticism. At the outset we encountered in the authors we solicited a great reluctance to embark upon such speculation. They said it was unscholarly, which of course it is, but it happens to be necessary. It is unscholarly perforce because there are no facts in the future : Cicero quite rightly contrasted past occurrences and occurrences to come with the contrasted expressions facta et futura : facta what is accomplished and can be taken as solid : futura what shall come into being, and is as yet "undone", fluid. This contrast leads me to assert vigorously : "there can be no science of the future." The future is not the realm of the "true or false" but the realm of "possibles".

But while there can be no science of the future, we can not avoid thinking about the future. We do so implicitly : it is better to do it explicitly.

To take a first point, there are more cases than one would imagine when mere adoption of a long prospect by itself make the necessity for some decisions or actions obvious as it was not without such adoption. For instance, in 1951 I put the question of North Africa to my compatriots in the form of a question: "Do you really expect the political

regime of North Africa to be twenty years hence what it now is?" The reply was obviously "No" and the consequence was a challenge (which was not met) to undertake a deliberate change right then. Or take the motor car in France in the early Twenties. By then it was clear that this had changed from a luxury product with very few owners to a frequent means of conveyance, destined to rapid popularization, to fast increasing numbers. It was enough to think of this as a fast developing phenomenon to perceive its implications for the whole structure of locations of work and residence and for the network of streets and roads. If the problem was not dealt with, it is simply because it was not made apparent by the mere taking of a long view. Or take the problem of air pollution : if you take a long perspective, it is plain that some radical remedies are called for, possibly the petrol-burning engine will in time be prohibited in densely populated areas, replaced by the fuel-cell : if such a change is recognized as necessary by experts in the subject, of which I am not one, then obviously the change-over has to be devised and announced long in advance.

Coming to a second and more general point, all our decisions imply some assumptions about the future : if not made explicit, we do not criticize them. Our most common error is to take "the map of the present" as valid for a distant future : for instance a father orients his son's education, guiding himself by the present state of the market for skills : but the skill in high esteem and demand now may not be such ten years hence. It is misleading to use our knowledge of present conditions as if it were valid for a very long time. Presumably an almost unlimited validity of "the social state of affairs", or "map of the present", was characteristic of a primitive stationary society. Then it was reasonable to make specific plans concerning some agent whose interests you took to heart by picturing his career as a journey forward on a constant map.

But this will not do in the case of a rapidly changing society. The rapidity of change implies that our present knowledge of the environment has a short validity; speaking of faster change implies a decreasing life expectation of our present knowledge of the environment. In other terms such factual knowledge depreciates more rapidly. If you like, the guide-book to a fast-growing town requires recasting at shorter and shorter intervals. In other terms again our knowledge of the future is ever less as change accelerates. This must be remedied by speculation.

Such speculations we do not like to call "predictions" or even "previsions". The first to use the word "prevision" in the modern sense was the physicist Maupertuis in 1752, and Voltaire took him to task for it, objecting that prevision properly means seeing the things to come as already existing, which is the privilege of God : Voltaire recommended the more modest term "prevoyance" implying an effort to picture what may happen—and a variety of things are so conceivable. We use the term FUTURIBLES (meaning possible futures) always in the plural to denote the fan-wise character of the future, and while we do not—and can not—describe all of the possible futures, we bear in mind that those we do consider do not constitute that exhaustive enumeration of possible "states of the world" which is called for by Decision Theory.

On this hangs a point which I regard as of great importance and deem specially useful to bring out here. It seems to me that nothing is less like the universe of social affairs than the artificial universe of a game of chance. In the case of a game of chance you know exhaustively in advance every situation which can possibly occur: you do not know at all which is going to turn up on the next throw or deal. The nature of the player's ignorance is then utterly different from the nature of our ignorance in the universe of social affairs. Here we are



not given in advance an exhaustive knowledge of all the possible future situations : we are not even given in advance the knowledge of any single one. Making up the picture of one future situation which may arise out of the present—because we live in a causal universe—is a work of imagination; making up the picture of another future situation which is also a plausible descendant from the present is more work. And we can go on with such work, making up still other plausible descendants from the present without ever being certain that we have enumerated all the possible futures : or rather we can be certain that we have not enumerated all the possible futures : because the present state from which we start is an open system affected by factors which do not figure in our description of "the present state".

I wish to stress that it is expensive, in terms of intellectual effort, to picture a future "condition of human affairs" : of course it may not cost us any deliberate effort, if we accept as a plausible future what is a mere fancy of our mind, which has made this up without any critical consideration. Again no expenditure is implied if we tacitly accept that things will be just as they are now; of the expensive methods, the cheapest consists in assuming that future conditions shall differ from those present, in the same way as the present conditions differ from some past condition : an "unchanging kind of change" is the simplest hypothesis which we can make about the future. This is the principle of these "projections" which G. K. Chesterton derided already in 1903. Indeed it is only on the basis of "the principle of insufficient reason" that we can accept "projection" : when we understand the phenomenon so little that we have no reason to suppose its trend shifting one way rather than another. Also projections are very useful to display impossibilities : thus for instance world population can not grow forever at a yearly 2% rate.

We at FUTURIBLES are interested in surmises about the future which are achieved at the cost of some intellectual exertion. We like to call them "reasoned conjectures", meaning thereby that when an author gives it as his opinion—and it is no more than an opinion—that things will shape up in a certain way, more or less by a certain time, he must adduce reasons for this opinion, describe the steps whereby that shape will be achieved, that situation will be reached.

At the outset of the FUTURIBLES venture, early in 1961, our sole concern was to get people, knowledgeable in a given field, to speculate about likely developments in that field. This was difficult enough, as I already noted. If at that stage we had raised the question of method, this would have caused the authors we approached to increase their reluctance : "There is no method for the forecasting of the future; therefore let us not do it." As it happened, curiosity about the method arose out of the practice : "Here we have been expressing surmises about the future : how did we form them?". Ex ante we had not worried about "the moves of the mind", ex post we came to consider them.

In this attempt to reconstitute the process of surmising, one does not retrieve all of the input or reasoning; this point has been powerfully made by Mr. Olaf Helmer: the expert cannot make wholly explicit his progress toward his conclusion. Let me however stress that only that part of the surmising process which can be made explicit can be handed on for use by others. Only a few days ago that eminent economist Paul A. Samuelson was making this very point. He stated that the best forecaster the U.S. had in recent times was Sumner Schlichter, but that his predictive skill was not explicated, not communicable, and died with him. For this reason we are very concerned to foster explicitness.

I have been using the term of "reasoned conjectures". This expression goes back at least to 1773 when it was used by a foreign policy expert, called J. L. Favier, in the title of a report on foreseeable changes in the European system of Powers and alliances, required of him by the Comte de Broglie, then Foreign Secretary, to be placed under the eyes of Louis XV. Though "top secret" as one would say today, this report became famous while remaining unseen, as is the case of some RAND documents. It came to light only as a by-product of the French Revolution, having been found in King Louis XVI's iron cupboard (armoires de fer) when this was broken up. These were days when all the secret documents could be accommodated within one cupboard!

Now about this coming to light, let me seize the occasion of stressing that when it occurred the report had been invalidated by the occurrence of the French Revolution : it was not the mere passage of some twenty years which had invalidated it but the revolutionary explosion, because the heat generated by the Revolution imparted to France for the next twenty years, more or less, a kinetic energy which Favier had not assumed and which completely altered the balance of power in Europe, for Europe's trouble and indeed to France's ultimate undoing. This seems to me worthy of notice : I am very attentive to "political gaming", as initiated here at RAND, but in turn I would like to draw your attention to the great change which can quite suddenly occur in a given State's possibilities, due to an internal "change of state" in a semi-chemical sense. And while I am digressing on "political gaming", let me further note that in the great game of strategy there exists a key-move of a kind unknown at chess, which consists in shifting to one's own camp a key-piece of the opponent's game : thus William of Orange, fearing in his narrow Netherlands the great forces of

Louis XIV, landed in England with a small retinue and got himself the English crown by means of which he could mobilize the forces of that country against the French king. Operations of this nature are sure to play a major role in strategic conflicts of our time.

I now turn back from this digression to what I was saying about methodology. Having firstly speculated, we then surveyed our modes of speculation, and discussed methodology of forecasting, or proference, as I like to call it when we make up a picture of the future by a systematic deformation of the present picture. We had a first methodological conference in Geneva, June 1962, a second in Paris, July 1963, and we are holding a third a few days hence at Yale (5-6 December). The conference we shall hold in Paris at the beginning of April will be of a different nature : there we propose to confront our views on structural changes in political institutions. All these conferences are of course means of knitting together people who are interested in discussing the shape of things to come.

The theme of reasoned conjectures or careful surmising is of course very suggestive, because in order to make any such you must use some theory about how things happen, and this is dynamic theory. Here is one of the main reasons which moved our initial team, now our Board, to undertake this project. It seemed to us that in political science there exists very little (if any) dynamic theory. In fact the name of "theory" is borne in political science not by explanatory models but by doctrines. Now if you ask political scientists to make surmises concerning political transformations in their country, they must use some sort of dynamic scheme : hence a progress toward dynamic theory in political science. We can evoke an analogy with economics. When I was at the university there was nothing like dynamic theory in economics, and it is when one became

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anxious to forecast and wishfully dreamt of some planning—tendencies in which I was involved from 1928 onwards—that one felt the need for some view of how things come out of each other, in short dynamic theory.

Now coming to the great design of our venture, it is to generate gradually a "Surmising Forum", a market place to which various speculations about the future are brought, where these speculations are confronted, discussed, criticized, combined or aggregated, so that images of attainable futures are made available. This we regard as necessary to revitalize Government by Discussion. I do not know how it is in this country, but in mine and in all the European countries of which I am cognizant, the political system is fundamentally altered from the model assumed by Locke. It is not now the case that the most important activity is lawmaking, and that the lawmaking body is the supreme Power, with the Executive a subordinate, merely engaged in enforcing the laws. What is the case is that long-term policies must be elaborated, which are in fact elaborated within the Executive, and the Legislature is called upon to make whatever rules are found necessary from time to time for the implementation of the long-term policies.

As to these, while they may well be subject to approval by the Legislature, they are brought before it in so advanced a stage of completion that legislators are greatly handicapped for their discussion.

A long-term program is an answer to the estimated requirements of the coming period : it's being a plausible answer does not exclude the existence of other plausible answers, arrived at—even if the same surmises are being used—from the application of a different ranking of values. But when that answer which has been chosen by the Government comes before the Legislature coated in the heavy armour of technical detail, then it is privileged by such armour, and the poor naked alternatives are paltry challenges.

It would be quite otherwise if programs were born and reared in public. What I mean by this image is that we would at the outset have an exhibition of the surmises which seem to require a long-term program; these surmises would be discussed as surmises. Then secondly on the basis of the surmises deemed the most plausible, you would have an exploration of possible answers; this would make way for a debate on preferences : it is at this stage that a political assembly is qualified; preferences are indeed a political matter. The political choices being made, then and then only would the working-out of the technical details take place.

My last remarks possibly have brought out what is the main interest which has brought together the members of the FUTURIBLES group. We are interested in social change, the problems arising from it, and the machinery for coping with them; the machinery that is the institutions, not as they are defined at law and described by jurists, but as they work in fact. We are not, as a group, concerned with military or diplomatic problems, not engaged in the strategy of conflict. Therefrom results a considerable difference in our approach from that of people engaged in strategic thinking : to us the world scene is broken up into national theaters of operations on each of which a drama of the same kind is enacted in different circumstances. In each country at any moment there are a variety of possible futures which foresight allows us to discern, and prudent decisions are those which tend to the materialization of the most desirable of the possibilities discerned.

Now perceiving these various possibilities is an intellectual task which is not at present organized, and we are greatly interested in the look-out institutions which should we feel be generated. We frequently use the term "surmising forum". But to sustain this forum there

must be some permanent agency, just as there is if you like a permanent organisation to sustain the transactions on the Stock Exchange. The need for "look-out institutions" is one definite conclusion of our work at FUTURIBLES.

Whether present political machinery is proper to make good use of foresight is another subject of great interest to us : if it is recognized that the elaboration of long-term policies geared to far-reaching prospects is becoming essential to modern government, it follows that political arrangements which were not devised for such operations may become inappropriate; to take an instance, it is impossible that the discussion of a yearly Budget should retain the importance it previously had. If there is no recasting of institutions, institutions meant to control the Active Power (a more appropriate expression than the Executive) become a nuisance or a phantom. There seems to be an obvious need for a new constitutionalism, not derived exclusively from a priori principles but mostly from the consideration of the tasks to be performed optimally under constraints some of which are a matter of principle. That "values" intervene in the understanding of "tasks" is not to be denied, but recognized.

Now then our concern at FUTURIBLES may be said to be made up of three "tiers".

Firstly it is a concern to look forward as best we can, and as we develop this activity to reflect upon it and improve its method. At this level we thus have:

- a) actual surmises
- b) methodology of surmising.

Secondly it is a concern to promote the institution-  
alization of the activity upon which we have embarked.

This institutionalization comprises the creation of

- c) a permanent surmising forum
- d) an agency or agencies sustaining this forum.

And as to this last point, the question arises whether such an agency can be private, which is best for its independence

from government, or public, which is best for the command of information.

Thirdly it is our concern to consider how the machinery of government can best be adjusted to cope with the problems of a fast-moving society, combining the virtues of efficiency with guarantees against the concentration of power.

As you see, our concern at FUTURIBLES is geographically extensive and intensively focussed upon political regimes.

I feel that I should now give you some information concerning another enterprise also located in France and quite different from ours but with a great deal of common ground, and in which I happened individually to participate.

In sharp contrast with FUTURIBLES, the 1985 Work-Group of the French Plan was a public commission, while we are a private group; it addressed itself to France alone while we are interested in all countries; finally the mandate of the 1985 Work-Group applied to the economic and social, sharply excluding the political, which at FUTURIBLES is our central concern. But insofar as the business of the 1985 Work-Group was to speculate on likely changes during the 25-year period from 1960 (year of reference) to 1985, this of course is very much business common with our own.

Firstly a few words about the inception of the 1985 Work-Group. It was initiated by M. Pierre Massé, our Plan Commissioner, and a man of outstanding intellectual originality whose personal work is fascinating. He felt that our economic Plans dealing with a four-year period (now five-year) should be conceived in the context of longer-range developments. While the progress of productivity is the central concept in economic development, this progress depends for its pace on social changes, and the forms under which it materializes—which are far from indifferent



to statistical measures of its pace—are also a matter of social change.

Ten "wise men" (as journalists flatteringly put it)—of which one was a lady—were called together by M. Masse' under the chairmanship of M. Pierre Guillaumat—a most distinguished Executive of our "Public Sector"—to speculate about 25-year developments. The procedure was as follows. In each meeting the group heard a report expressing previsions up to and for 1985, all but a few of these reports coming from government departments. The members of the group then briefly expressed their reactions to their report. These were noted by a staff of junior civil servants. The group met twenty times between the 24th of January 1963 and the 20th of February 1964 : then the staff of junior civil servants drew up a report; this was not discussed in detail by the older group, members of which felt that the purpose of calling attention to the problems of the future had been brilliantly served by the junior staff.

It was a most important feature of this exercise that the Plan Commissioner, M. Pierre Masse', and his chief assistant, M. Jean Ripert, were present throughout the sessions, and they drew from the discussions certain conclusions which were imbedded in a general report on the forthcoming Fifth Plan, report which was then successively submitted to discussion at the Conseil Economique et Social (where the representatives of "interests" sit) and only after that to Parliament.

Two things seem worthy of note in this experiment; firstly the political procedure, then the intellectual procedure. In the case of the political procedure, it is to be noted that a public commission was formed of people who, while nominated formally by the Prime Minister, were chosen by M. Pierre Masse', irrespective of their political opinions. Admittedly the group contained no ultra-rightist

and no Communist, but, according to my reckoning, a good half of the members are not apt to vote for General de Gaulle at the coming Presidential election. Some long-term prospects which became quite obvious in the course of this discussion were worked into a rough sketch of the Fifth Plan and this was submitted to a consultative assembly (the Conseil Economique et Social : a body far too little noticed by American scholars) where reactions were elicited, which could then be taken into account by members of Parliament.

Now I turn to the intellectual procedure of the group. I have one criticism to make : while all members of the group were very knowledgeable people, in the case of nearly all, their high qualifications were associated with such heavy burdens of responsibility that the demands which could acceptably be made upon the members of the group by its leader had perforce to be limited far more than would have seemed to me desirable. To go on, what seemed to me striking was that the mere juxtaposition of the reports sufficed, as foreseen by M. Massé and M. Guillaumat, to bring into sharp relief inconsistencies posing problems. Let me quote some instances.

1. Forecasts were brought before the group concerning on the one hand the demand for people of superior education, on the other hand their supply. A yawning "gap" was displayed. (Note that this same subject is the theme of a most elaborate study by Michel Vermot-Gauchy, undertaken for FUTURIBLES and now going into print in book form : the far more detailed study of Vermot-Gauchy does not lead to such alarming conclusions as the confrontation of forecasts in very general terms.)

2. The forecast that in the 25-year period "as much town" would be built as previously existed made us most sharply aware that this great building activity had no counterpart in the rational designing of "lay-out".

While we have been planning national production for well-nigh twenty years we are only belatedly growing conscious of the need to plan locations.

3. It has been repeatedly stated in France as well as everywhere else that incomes arising from production can move up in real terms only as fast as production itself and that therefore such incomes should in nominal terms move up not much faster than production. I spare you the well-known qualifications relating expendable income to the growth of consumable production. Now projections were brought before us concerning the foreseeable progress of social benefits distributed in monetary form. From these projections, it appeared that such benefits were apt to form a rapidly increasing share of the total of personal incomes. In fact from figures quoted it seemed that this share was due to rise from 18% to 42% of pre-tax incomes, which means more than that in the case of post-tax incomes! If indeed such incomes, not tied to production, are to form such a fast increasing share of the total of personal incomes, then mere arithmetic makes it quite apparent that incomes directly arising out of production can not possibly rise in real terms as fast as production.

I have taken three simple instances, expressed in the roughest terms. They suffice to prove the statement I made at the beginning of my talk that some problems suddenly stand out sharply simply because one has envisaged a long prospect.

This incidentally shows that projections which are quite a naive procedure, are at their most useful when their confrontation brings out incompatibilities which have to be taken into account.

This is but one of the reasons which have led us at FUTURIBLES to undertake a collection of the speculations concerning the future. Any such speculation which comes to our notice (and this constitutes an invitation) is

mentioned, with a more or less extended analysis, in a special periodic issue of our Bulletin (such works should for that purpose be addressed to SEDEIS, 205 Boulevard St. Germain, Paris). We regard it as of extreme importance that any author who speculates on the future should have cognizance of forecasts concerning fields other than his own (as well of course as speculations in his own field).

There is no time left to discuss the great subject of the methods to be used in forecasting. This has been made the subject of three international conferences, of eight of our published essays, and, if I may mention it, of my book L'Art de La Conjecture (presently being translated into English) wherein I have attempted to survey the methods used for historical prediction in the various social sciences, from the ancient predictions uttered by classical authors to the forecasts made by means of econometric models. I found it fascinating work to analyse the procedures.

But I can not go into this. Let me only note the contrast and relation between a scientific prediction and an historic prediction. Any scientific "law" of course predicts in the form "Whenever conditions  $a, b, \dots, n$  are fulfilled, the event or change of state A will occur". This is an atemporal prediction, it does not say at what hour or date the event A will occur, it is whenever the conditions will happen to be fulfilled. Now in the case of an event we want to announce for a given moment in the future, supposing that we had—as in general we do not—a "scientific law of the event", in order to predict its occurrence at a given date, we would have to guess that the conditions on which the "law" says it depends will have been fulfilled in time. The important share of "guessing" is the utterance of predictions made with a scientific apparatus has been borne upon me due to reflection upon econometric models. These yield future values of the so-called "endogeneous variables" : but in so far as the

structural equations which yield you these values comprise exogeneous variables bearing the same future date for which you wish to predict, these future values of the exogeneous variables have to be guessed. I trust this remark will not be mistaken for a critique of econometric models : as such it would be most naive; my purpose is quite different, it is to discriminate, in the most elaborate "predictive systems" now being used, between the relations relied upon and the input of estimates. Perhaps I shall make my point clearer if I resort to a childish illustration. I am at dinner with a chemist who tells me that four and half hours from now a certain reaction will have occurred. Questioned, he explains that this reaction takes four hours and shall be triggered half an hour hence by his assistant. Now the statement that the reaction will take four hours is a "whenever" prediction; utterly different in kind is the statement that the assistant will trigger it in half an hour. Historic "predictions" imply statements about actions, which are more or less reliable as we deal with actions found to be more or less subject to statistical legality. Such legality is at its lowest in political behaviour, and moreover in the field of Politics the concentration of decision-making gives the utmost importance to moves by individuals. And here we come upon one of the major problems of our time. The individual needs a predictable environment, and as there are more forces for change in Society, his present social knowledge is, as mentioned before, valid for ever shorter periods. To make the future more predictable for him, we want an increasing intervention of public agencies which regularizes change. This tends to drain uncertainty out of the social scene, but the uncertainty then has a potential seat in the powers that be, which may have sudden reactions to circumstances they had failed to foresee, or for more personal reasons. And this explains why we are so concerned with political institutions.