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Security, Territory, Population

LECTURES AT THE COLLÈGE DE FRANCE,
1977-78

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*General perspective of the lectures: the study of bio-power. ~ Five proposals on the analysis of mechanisms of power. ~ Legal system, disciplinary mechanisms, and security apparatuses (*dispositifs*).   Two examples: (a) the punishment of theft; (b) the treatment of leprosy, plague, and smallpox. ~ General features of security apparatuses (1): the spaces of security. ~ The example of the town. ~ Three examples of planning urban space in the sixteenth and seventeenth centuries: (a) Alexandre Le Maître's* La Métropolitée *(1682); (b) Richelieu; (c) Nantes.*

THIS YEAR I WOULD like to begin studying something that I have called, somewhat vaguely, bio-power.* By this I mean a number of phenomena that seem to me to be quite significant, namely, the set of mechanisms through which the basic biological features of the human species became the object of a political strategy, of a general strategy of power, or, in other words, how, starting from the eighteenth century, modern western societies took on board the fundamental biological fact that human beings are a species. This is roughly what I have called bio-power. So, to begin with, I'd like to put forward a few proposals that should be understood as indications of choice or statements of intent, not as principles, rules, or theorems.

First, the analysis of these mechanisms of power that we began some years ago, and are continuing with now, is not in any way a general theory of what power is. It is not a part or even the start of such a theory. This analysis simply involves investigating where and how, between whom, between what points, according to what processes, and with what effects, power is applied. If we accept that power is not a substance, fluid, or something that derives from a particular source, then this analysis could and would only be at most a beginning of a theory, not of a theory of what power is, but simply of power in terms of the set of mechanisms and procedures that have the role or function and theme,

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* See, *"Il faut défendre la société". Cours au Collège de France, 1975-1976,* ed. M. Bertani and A. Fontana (Paris: Gallimard-Le Seuil, 1997) p. 216; English translation by David Macey, *"Society Must Be Defended". Lectures at the Collège de France, 1975-1976,* ed. M. Bertani and A. Fontana, English series ed. Arnold Davidson (New York: Picador, 2003), p. 243: "What does this new technology of power, this biopolitics, this bio-power that is beginning to establish itself, involve?"; *La Volonté de savoir* (Paris: Gallimard, 1976) p. 184; English translation by Robert Hurley, *The History of Sexuality, vol. 1: An Introduction* (New York: Pantheon, 1978) p. 140.

even when they are unsuccessful, of securing power. It is a set of procedures, and it as such, and only as such, that the analysis of mechanisms of power could be understood as the beginnings of something like a theory of power.

Second indication of choice: the relations, the set of relations, or rather, the set of procedures whose role is to establish, maintain, and transform mechanisms of power, are not "self-generating"* or "self-subsistent"†; they are not founded on themselves. Power is not founded on itself or generated by itself. Or we could say, more simply, that there are not first of all relations of production and then, in addition, alongside or on top of these relations, mechanisms of power that modify or disturb them, or make them more consistent, coherent, or stable. There are not family type relationships and then, over and above them, mechanisms of power; there are not sexual relationships with, in addition, mechanisms of power alongside or above them. Mechanisms of power are an intrinsic part of all these relations and, in a circular way, are both their effect and cause. What's more, in the different mechanisms of power intrinsic to relations of production, family relations, and sexual relations, it is possible, of course, to find lateral co-ordinations, hierarchical subordinations, isomorphic correspondences, technical identities or analogies, and chain effects. This allows us to undertake a logical, coherent, and valid investigation of the set of these mechanisms of power and to identify what is specific about them at a given moment, for a given period, in a given field.

Third, the analysis of these power relations may, of course, open out onto or initiate something like the overall analysis of a society. The analysis of mechanisms of power may also join up with the history of economic transformations, for example. But what I am doing – I don't say what I am cut out to do, because I know nothing about that – is not history, sociology, or economics. However, in one way or another, and for simple factual reasons, what I am doing is something that concerns philosophy, that is to say, the politics of truth, for I do not see many other definitions of the word "philosophy" apart from this. So, insofar as what is involved in this analysis of mechanisms of power is the politics of truth, and not sociology, history, or economics, I see its role as that of showing the knowledge effects produced by the struggles, confrontations, and battles that take place within our society, and by the tactics of power that are the elements of this struggle.

Fourth indication: I do not think there is any theoretical or analytical discourse which is not permeated or underpinned in one way or

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* autogénétiques: in inverted commas in the manuscript.

† autosubsistantes: in inverted commas in the manuscript.

another by something like an imperative discourse.   However, in the theoretical domain, the imperative discourse that consists in saying "love this, hate that, this is good, that is bad, be for this, beware of that," seems to me, at present at any rate, to be no more than an aesthetic discourse that can only be based on choices of an aesthetic order.   And the imperative discourse that consists in saying "strike against this and do so in this way," seems to me to be very flimsy when delivered from a teaching institution or even just on a piece of paper.   In any case, it seems to me that the dimension of what is to be done can only appear within a field of real forces, that is to say within a field of forces that cannot be created by a speaking subject alone and on the basis of his words, because it is a field of forces that cannot in any way be controlled or asserted within this kind of imperative discourse.   So, since there has to be an imperative, I would like the one underpinning the theoretical analysis we are attempting to be quite simply a conditional imperative of the kind: If you want to struggle, here are some key points, here are some lines of force, here are some constrictions and blockages.   In other words, I would like these imperatives to be no more than tactical pointers. Of course, it's up to me, and those who are working in the same direction, to know on what fields of real forces we need to get our bearings in order to make a tactically effective analysis.   But this is, after all, the circle of struggle and truth, that is to say, precisely, of philosophical practice.

Finally, a fifth and final point: I think this serious and fundamental relation between struggle and truth, the dimension in which philosophy has developed for centuries and centuries, only dramatizes itself, becomes emaciated, and loses its meaning and effectiveness in polemics within theoretical discourse. So in all of this I will therefore propose only one imperative, but it will be categorical and unconditional: Never engage in polemics.*

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* These phrases should be brought together with those made by Foucault at the end of the same year in his long interview with D. Trombadori, on his disappointment, returning from Tunisia, with the theoretical polemics of the movements of the extreme left following May 1968: "We have spoken of the hyper-Marxism in France, of the explosion of theories, of anathemas, and the fragmentation into little groups. This was precisely the exact opposite, the reverse, the contrary of what had fascinated me in Tunisia [with the student riots of March 1968]. Perhaps this explains the way in which I tried to approach things from that time, standing back from those infinite discussions, that hyper-Marxization [...] I tried to do things that involved a personal commitment that was physical and real, and which would pose problems in concrete, precise, and definite terms in a given situation." "Entretien avec Michel Foucault" in Michel Foucault, *Dits et Écrits, 1954-1988*, in 4 volumes, ed. D. Defert and F. Ewald, with the assistance of Jacques Lagrange (Paris: Gallimard, 1994) vol. 4, p. 80; English translation (of Italian version) by R. James Goldstein and James Cascaito, as *Remarks on Marx. Conversations with Duccio Trombadori* (New York: Semiotext(e), 1991) p. 139. On the link between this conception of commitment and Foucault's observations on the events in Iran in October and November 1978, see the "Course Context" below, pp. 375-376.

Now I would like to begin the lectures. Their title is "security, territory, population."[*]

The first question is obviously: What are we to understand by "security"? I would like to devote today and maybe next week to this question, depending on how quickly or slowly I go. I will take an example, or rather a series of examples, or rather one example modulated in three stages. It is a very simple, very childish example, but we will start from there and I think it will enable me to say certain things. Take a completely simple penal law in the form of a prohibition like, say, "you must not kill, you must not steal," along with its punishment, hanging, or banishment, or a fine. In the second modulation it is still the same penal law, "you must not steal," and it is still accompanied by certain punishments if one breaks this law, but now everything is framed by, on the one hand, a series of supervisions, checks, inspections, and varied controls that, even before the thief has stolen, make it possible to identify whether or not he is going to steal, and so on. And then, on the other hand, at the other end, punishment will not just be the spectacular, definitive moment of the hanging, fine, or banishment, but a practice like incarceration with a series of exercises and a work of transformation on the guilty person in the form of what we call penitentiary techniques: obligatory work, moralization, correction, and so forth. The third modulation is based on the same matrix, with the same penal law, the same punishments, and the same type of framework of surveillance on one side and correction on the other, but now, the application of this penal law, the development of preventive measures, and the organization of corrective punishment will be governed by the following kind of questions. For example: What is the average rate of criminality for this [type][†]? How can we can predict statistically the number of thefts at a given moment, in a given society, in a given town, in the town or in the country, in a given social stratum, and so on? Second, are there times, regions, and penal systems that will increase or reduce this average rate? Will crises, famines, or wars, severe or mild punishment, modify something in these proportions? There are other questions: Be it theft or a particular type of theft, how much does this criminality cost society, what damage does it cause, or loss of earnings, and so on? Further questions: What is the cost of repressing these thefts? Does severe and strict repression cost more than one that is more permissive; does

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[*] See the lecture of 1 February 1978 (below p. 108) in which Foucault notes that a more accurate title for the course would have been "a history of "governmentality."" The lecture has appeared separately as: "La "gouvernementalité"" *Dits et Écrits*, vol. 3, p. 655; English translation (from Italian) by Rosi Braidotti, revised by Colin Gordon, "Governmentality" in Michel Foucault, *Essential Works of Foucault, 1954-1984, vol. 3: Power*, ed. James D. Faubion, trans. Robert Hurley and others (New York: The New Press, 2000), p. 219.

[†] M.F. : kind (*genre*)

exemplary and discontinuous repression cost more than continuous repression? What, therefore, is the comparative cost of the theft and of its repression, and what is more worthwhile: to tolerate a bit more theft or to tolerate a bit more repression? There are further questions: When one has caught the culprit, is it worth punishing him? What will it cost to punish him? What should be done in order to punish him and, by punishing him, reeducate him? Can he really be reeducated? Independently of the act he has committed, is he a permanent danger such that he will do it again whether or not he has been reeducated? The general question basically will be how to keep a type of criminality, theft for instance, within socially and economically acceptable limits and around an average that will be considered as optimal for a given social functioning. These three modalities seem to me to be typical of different things that we have studied, [and of] those that I would now like to study.

You are familiar with the first form, which consists in laying down a law and fixing a punishment for the person who breaks it, which is the system of the legal code with a binary division between the permitted and the prohibited, and a coupling, comprising the code, between a type of prohibited action and a type of punishment. This, then, is the legal or juridical mechanism. I will not return to the second mechanism, the law framed by mechanisms of surveillance and correction, which is, of course, the disciplinary mechanism.[*] The disciplinary mechanism is characterized by the fact that a third personage, the culprit, appears within the binary system of the code, and at the same time, outside the code, and outside the legislative act that establishes the law and the judicial act that punishes the culprit, a series of adjacent, detective, medical, and psychological techniques appear which fall within the domain of surveillance, diagnosis, and the possible transformation of individuals. We have looked at all this. The third form is not typical of the legal code or the disciplinary mechanism, but of the apparatus (*dispositif*) of security,[†] that is to say, of the set of those phenomena that I now want to study. Putting it in a still absolutely general way, the apparatus of security inserts the phenomenon in question, namely theft, within a series of probable events. Second, the reactions of power to this phenomenon are inserted in a calculation of cost. Finally, third, instead of a binary

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[*] See, Michel Foucault, *Surveiller et Punir. Naissance de la prison* (Paris: Gallimard, 1975); English translation by A. Sheridan, *Discipline and Punish. Birth of the Prison* (London: Allen Lane and New York: Pantheon, 1977).

[†] Foucault distinguishes security mechanisms from disciplinary mechanisms for the first time in the final lecture (17 March 1976) of the 1975-1976 course *"Il faut défendre la société"* p. 219; *"Society Must Be Defended"* p. 246. However, the concept of "security" is not taken up in *La Volonté de savoir* where, in opposition to the disciplines, which are exercised on the bodies of individuals, Foucault prefers to speak of "regulatory controls" that take charge of the health and life of populations (p. 183; *History of Sexuality, vol. 1*, p. 145).

division between the permitted and the prohibited, one establishes an average considered as optimal on the one hand, and, on the other, a bandwidth of the acceptable that must not be exceeded. In this way a completely different distribution of things and mechanisms takes shape.

I have taken this simple example in order to stress straightaway two or three things that I would like to be quite clear, for all of you, and first of all, of course, for myself. I have apparently given you the bare bones, if you like, of a kind of historical schema. The legal system is the archaic form of the penal order, the system we are familiar with from the Middle Ages until the seventeenth or eighteenth century. The second we could call the modern system, which was established from the eighteenth century, and then the third is the, let's say, contemporary system, the problematic of which began to appear fairly early on, but which is currently being organized around new penal forms and the calculation of the cost of penalties; these are the American,* but also European techniques that we are now seeing. Actually, to describe things in this way, as the archaic, ancient, modern, and contemporary, misses the most important thing. The main thing is missing, in the first place, because, of course, the ancient modalities I spoke about involve those that appear as newer. It is absolutely clear that in the juridico-legal system, which functioned, or at any rate was dominant, until the eighteenth century, the disciplinary side was far from being absent since, after all, when a so-called exemplary punishment was imposed on an action, even and above all when the action was apparently of little importance or consequence, it was in fact precisely with the aim of having a corrective effect, if not on the culprit himself – because he was hardly corrected if he was hung – [then at least on the]† rest of the population. To that extent, the practice of public torture and execution as an example was a corrective and disciplinary technique. Just as, in the same system, when one severely punished domestic theft – with the death penalty for a theft of very, very minor importance if it was committed in a house by someone who was received there or who was employed as a servant – it was clear that what was targeted was basically a crime that was only important due to its probability, and we can say that here too something like a mechanism of security was deployed. We could [say]‡ the same with regard to the disciplinary system, which includes a whole series of dimensions that absolutely belong to the domain of security. Basically, when one undertakes to correct a prisoner, someone who has been sentenced, one

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* On these new penal forms in American neo-liberal discourse, see *Naissance de la biopolitique. Cours au Collège de France, 1978-1979*, ed. M. Senellart (Paris: Gallimard-Le Seuil, 2004), lecture of 21 March 1979, p. 245 *sq.*

† Foucault says: on the other hand, the correction, the corrective effect was clearly addressed to the

‡ M.F.: take (*prendre*)

tries to correct the person according to the risk of relapse, of recidivism, that is to say according to what will very soon be called dangerousness – that is to say, again, a mechanism of security. So, disciplinary mechanisms do not appear just from the eighteenth century; they are already present within the juridico-legal code. Mechanisms of security are also very old as mechanisms. Conversely, I could also say that if we take the mechanisms of security that some people are currently trying to develop, it is quite clear that this does not constitute any bracketing off or cancellation of juridico-legal structures or disciplinary mechanisms. On the contrary, still in the penal domain, look at what is currently taking place in the domain of security for example. There is an increasingly huge set of legislative measures, decrees, regulations, and circulars that permit the deployment of these mechanisms of security. In comparison, in the tradition of the Middle Ages and the Classical age, the legal code concerning theft was very simple. If you consider the body of legislation concerning not only theft, but theft by children, the penal status of children, mental responsibility, and the whole body of legislation regarding what are called, precisely, security measures, the supervision of individuals after they leave a penal institution, you can see that getting these systems of security to work involves a real inflation of the juridico-legal code. In the same way, with the establishment of these mechanisms of security there is a considerable activation and propagation of the disciplinary corpus. For in order actually to guarantee this security one has to appeal, to take just one example, to a whole series of techniques for the surveillance of individuals, the diagnosis of what they are, the classification of their mental structure, of their specific pathology, and so on; in short one has to appeal to a whole disciplinary series that proliferates under mechanisms of security and is necessary to make them work.

So, there is not a series of successive elements, the appearance of the new causing the earlier ones to disappear. There is not the legal age, the disciplinary age, and then the age of security. Mechanisms of security do not replace disciplinary mechanisms, which would have replaced juridico-legal mechanisms. In reality you have a series of complex edifices in which, of course, the techniques themselves change and are perfected, or anyway become more complicated, but in which what above all changes is the dominant characteristic, or more exactly, the system of correlation between juridico-legal mechanisms, disciplinary mechanisms, and mechanisms of security. In other words, there is a history of the actual techniques themselves. For example, you could perfectly well study the history of the disciplinary technique of putting someone in a cell, which goes back a long way. It was already frequently employed in the juridico-legal age; you find it used for debtors and above all you find

it in the religious domain. So, you could study the history of this cell technique (that is to say, [of] its shifts, [of] its utilization), and you would see at what point the cell technique, cellular discipline, is employed in the common penal system, what conflicts it gives rise to, and how it recedes. You could also analyze the security technique of criminal statistics. Crime statistics do not date from the present, but neither are they very old. In France, crime statistics were made possible by the famous Accounts of the Minister of Justice from 1826.* So, you could study the history of these techniques. But there is another history, which would be the history of technologies, that is to say the much more general, but of course much more fuzzy history of the correlations and systems of the dominant feature which determine that, in a given society and for a given sector – for things do not necessarily develop in step in different sectors, at a given moment, in a given society, in a given country – a technology of security, for example, will be set up, taking up again and sometimes even multiplying juridical and disciplinary elements and redeploying them within its specific tactic. Still with regard to the penal domain, there is a very clear example of this at the moment. For some time now, for a good dozen years at least, it has been clear that the essential question in the development of the problematic of the penal domain, in the way in which it is reflected as well as in the way it is practiced, is one of security. Basically, the fundamental question is economics and the economic relation between the cost of repression and the cost of delinquency. Now what we see is that this problematic has led to such an inflation in disciplinary techniques, which were set up long ago however, that this increase of the disciplinary has been the point at which, if not scandal, at least friction has broken out – and the wound has been sufficiently sensitive to have provoked some real and even violent reactions. In other words, in a period of the deployment of mechanisms of security, it is the disciplinary that sparked off, not the explosion, for there has not been an explosion, but at least the most evident and visible conflicts. So, in this year's lectures I would like to show you in what this technology consists, in what some of these technologies [of security]† consist, it being understood that each of them consists to a great extent in

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* These are the judicial statistics published every year, since 1825, by the Minister of Justice. See, A.-M. Guerry, *Essai sur la statistique morale de la France* (Paris: Crochard, 1833) p. 5: "The first authentic documents published on the administration of criminal justice in France only go back to 1825. (...) Today, every quarter the public prosecutors send to the Minister of Justice accounts of the criminal or correctional matters brought before the courts of their jurisdiction. These reports drafted according to uniform models, so that they present only positive and comparable results, are carefully examined at the Ministry, checked against each other in their various parts, and the analysis of them at the end of the year forms the *General account of the administration of criminal justice*."

† M.F.: disciplinary

the reactivation and transformation of the juridico-legal techniques and the disciplinary techniques I have talked about in previous years.

I will just outline another example in order to introduce another set of problems or to emphasize and generalize the problem (and again, these are examples that I have talked about a hundred times[*]). Take the exclusion of lepers in the Middle Ages, until the end of the Middle Ages.[†] Although there were also many other aspects, exclusion essentially took place through a juridical combination of laws and regulations, as well as a set of religious rituals, which anyway brought about a division, and a binary type of division, between those who were lepers and those who were not. A second example is that of the plague (which again I have talked about,[‡] so I will return to it very briefly). The plague regulations formulated at the end of the Middle Ages, in the sixteenth and still in the seventeenth century, give a completely different impression, act in a completely differently way, have a completely different end, and above all use completely different instruments. These plague regulations involve literally imposing a partitioning grid on the regions and town struck by plague, with regulations indicating when people can go out, how, at what times, what they must do at home, what type of food they must have, prohibiting certain types of contact, requiring them to present themselves to inspectors, and to open their homes to inspectors. We can say that this is a disciplinary type of system. The third example, which we are currently studying in the seminar, is smallpox or inoculation practices from the eighteenth century.[§] The problem is posed quite differently. The fundamental problem will not be the imposition of discipline, although discipline may be called on to help, so much as the problem of knowing how many people are infected with smallpox, at what age, with what effects, with what mortality rate, lesions or after-effects, the risks of inoculation, the probability of an individual dying or being infected by smallpox despite inoculation, and the statistical effects on the population in general. In short, it will no longer be the problem of exclusion, as with leprosy, or of quarantine, as with the plague, but of

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[*] Foucault adds: and which are (*followed by a word that is inaudible*)

[†] See, *Histoire de la folie à l'âge classique* (Paris: Gallimard, 1972) pp. 13-16; (abridged) English translation by R. Howard, *Madness and Civilization* (New York: Random House, 1965 and London: Tavistock, 1967) pp.3-7; *Les Anormaux. Cours au Collège de France, 1974-1975*, ed. V. Marchetti and A. Salomoni (Paris: Gallimard-Le Seuil, 1999) lecture of 15 January 1975, pp. 40-41; English translation by Graham Burchell, *Abnormal. Lectures at the Collège de France 1974-1975*, English series ed. Arnold I. Davidson (New York: Picador, 2003) pp. 43-44; *Surveillir et Punir*, pp. 197-200; *Discipline and Punish,* pp. 198-200.

[‡] *Les Anormaux*, pp. 41-45; *Abnormal*, pp. 44-48; *Surveillir et Punir*, pp. 197-200; *Discipline and Punish,* pp. 198-200.

[§] Foucault returns to this theme in the lecture of 25 January, p. 57 *sq.* On the paper given by A.-M. Moulin in the seminar, see below, lecture of 25 January, note 2.

epidemics and the medical campaigns that try to halt epidemic or endemic phenomena.

Here again, moreover, we need only look at the body of laws and the disciplinary obligations of modern mechanisms of security to see that there is not a succession of law, then discipline, then security, but that security is a way of making the old armatures of law and discipline function in addition to the specific mechanisms of security. So, in Western socieities, in the domain of law, in the domain of medicine, and in other domains also, which is why I have given this other example, you can see a somewhat similar evolution and more or less the same type of transformations. What is involved is the emergence of technologies of security within mechanisms that are either specifically mechanisms of social control, as in the case of the penal system, or mechanisms with the function of modifying something in the biological destiny of the species. Can we say then – and this is what is at stake in what I want to analyze – that the general economy of power in our societies is becoming a domain of security? So, in these lectures I would like to undertake a sort of history of technologies of security and try to identify whether we can really speak of a society of security. At any rate, under this name of a society of security, I would like simply to investigate whether there really is a general economy of power which has the form [of], or which is at any rate dominated by, the technology of security.

So, some general features of these apparatuses (*dispositifs*) of security. I would like to identify four, I don't know how many ... anyway I will start by analyzing some of them. First of all I would like to study a little, just in an overview, what could be called spaces of security. Second, I would like to study the problem of the treatment of the uncertain, the aleatory. Third, I will study the form of normalization specific to security, which seems to me to be different from the disciplinary type of normalization. And finally, I will come to what will be the precise problem of this year, which is the correlation between the technique of security and population as both the object and subject of these mechanisms of security, that is to say, the emergence not only of the notion, but also of the reality of population. Population is undoubtedly an idea and a reality that is absolutely modern in relation to the functioning of political power, but also in relation to knowledge and political theory, prior to the eighteenth century.

So, first, questions of space, broadly speaking. Baldly, at first sight and somewhat schematically, we could say that sovereignty is exercised within the borders of a territory, discipline is exercised on the bodies of individuals, and security is exercised over a whole population. Territorial borders, individual bodies, and a whole population, yes ... but this is not the point and I don't think it holds together. In the first place it does not

hold together because we already come across the problem of multiplicities in relation to sovereignty and discipline. If it is true that sovereignty is basically inscribed and functions within a territory, and that the idea of sovereignty over an unpopulated territory is not only a juridically and politically acceptable idea, but one that is absolutely accepted and primary, nevertheless the effective, real, daily operations of the actual exercise of sovereignty point to a certain multiplicity, but one which is treated as the multiplicity of subjects, or [as] the multiplicity of a people.

Discipline is of course also exercised on the bodies of individuals, but I have tried to show you how the individual is not the primary datum on which discipline is exercised. Discipline only exists insofar as there is a multiplicity and an end, or an objective or result to be obtained on the basis of this multiplicity. School and military discipline, as well as penal discipline, workshop discipline, worker discipline, are all particular ways of managing and organizing a multiplicity, of fixing its points of implantation, its lateral or horizontal, vertical and pyramidal trajectories, its hierarchy, and so on. The individual is much more a particular way of dividing up the multiplicity for a discipline than the raw material from which it is constructed. Discipline is a mode of individualization of multiplicities rather than something that constructs an edifice of multiple elements on the basis of individuals who are worked on as, first of all, individuals. So sovereignty and discipline, as well as security, can only be concerned with multiplicities.

On the other hand, problems of space are equally common to all three. It goes without saying for sovereignty, since sovereignty is first of all exercised within the territory. But discipline involves a spatial division, and I think security does too, and the different treatment of space by sovereignty, discipline, and security, is precisely what I want to talk about.

We will take again a series of examples. Obviously, I will look at the case of towns. In the seventeenth century, and at the beginning of the eighteenth century, the town still had a particular legal and administrative definition that isolated it and marked it out quite specifically in comparison with other areas and spaces of the territory. Second, the town was typically confined within a tight, walled space, which had much more than just a military function. Finally, it was much more economically and socially mixed than the countryside.

Now, in the seventeenth and eighteenth centuries this gave rise to a number of problems linked to the development of administrative states, for which the juridical specificity of the town posed a difficult problem. Second, the growth of trade, and then, in the eighteenth century, urban demography, raised the problem of the town's compression and enclosure

within its walls. The development of military techniques raised the same problem. Finally, the need for permanent economic exchanges between the town and its immediately surrounding countryside, for means of subsistence, and with more distant areas, for its commercial relations, [ensured that] the enclosure and hemming in of the town [also] posed a problem. Broadly speaking, what was at issue in the eighteenth century was the question of the spatial, juridical, administrative, and economic opening up of the town: resituating the town in a space of circulation. On this point I refer you to a study that, since it was made by an historian, is extraordinarily complete and perfect: it is Jean-Claude Perrot's study of Caen in the eighteenth century, in which he shows that the problem of the town was essentially and fundamentally a problem of circulation.[*]

Take a text from the middle of the seventeenth century, *La Métropolitée*, written by someone called Alexandre Le Maître.[†] Alexandre Le Maître was a protestant who left France before the Edict of Nantes and who became, and the term is significant, general engineer of the Elector of Brandenburg. He dedicated *La Métropolitée* to the king of Sweden, the book being published in Amsterdam. All of this – protestant, Prussia, Sweden, Amsterdam – is not entirely without significance. The problem of *La Métropolitée* is: Must a country have a capital city, and in what should it consist? Le Maître's analysis is the following: The state, he says, actually comprises three elements, three orders, three estates even; the peasants, the artisans, and what he calls the third order, or the third estate, which is, oddly, the sovereign and the officers in his service.[‡] The state must be like an edifice in relation to these three elements. The peasants, of course, are the foundations of the edifice, in the ground, under the ground, unseen but ensuring the solidity of the whole. The common parts, the service quarters of the edifice, are, of course, the artisans. As for the noble quarters, the living and reception areas, these are the sovereign's officers and the sovereign himself.[§] On the basis of this architectural metaphor, the territory must also comprise foundations,

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[*] Jean-Claude Perrot, *Genèse d'une ville moderne. Caen au XVIIIe siècle*, University of Lille thesis, 1974, 2 volumes (Paris-The Hague: Mouton, 1975). Michèle Perrot refers to this book in her postface to Jeremy Bentham, *La Panoptique* (Paris: Belfond, 1977): "L'inspecteur Bentham" p. 189 and p. 208. Foucault contributed to this work in his interview with J.-P. Barrou and M. Perrot, "L'œil du pouvoir"; English translation by Colin Gordon,"The eye of power" in Michel Foucault, *Power/Knowledge. Selected Interviews and Other Writings 1972-1977*, ed. Colin Gordon (Brighton: The Harvester Press, 1980).

[†] Alexandre Le Maître (Quartermaster and General Engineer for S.A.E. Brandenburg), *La Métropolitée, ou De l'établissement des villes Capitales, de leur Utilité passive & active, de l'Union de leurs parties & de leur anatomie, de leur commerce, etc.,* (Amsterdam: B. Bockholt, 1682, reprinted, Éditions d'histoire sociale, 1973).

[‡] *La Métropolitée*, Ch. X, pp. 22-24: "Of the three Estates that should be distinguished in a Province; their function and their qualities."

[§] Ibid.

common parts, and noble parts. The foundations will be the countryside, and it goes without saying that all the peasants, and only peasants, must live in the countryside. Second, all the artisans, and only artisans, must live in the small towns. Finally, the sovereign, his officers, and those artisans and tradesmen who are indispensable to the functioning of the court and the sovereign's entourage, must live in the capital.[*] Le Maître sees the relationship between the capital and the rest of the territory in different ways. It must be a geometrical relationship in the sense that a good country is one that, in short, must have the form of a circle, and the capital must be right at the center of the circle.[†] A capital at the end of an elongated and irregular territory would not be able to exercise all its necessary functions. In fact, this is where the second, aesthetic and symbolic, relationship between the capital and the territory appears. The capital must be the ornament of the territory.[‡] But this must also be a political relationship in that the decrees and laws must be implanted in the territory [in such a way] that no tiny corner of the realm escapes this general network of the sovereign's orders and laws.[§] The capital must also have a moral role, and diffuse throughout the territory all that is necessary to command people with regard to their conduct and ways of doing things.[**] The capital must give the example of good morals.[††] The capital must be the place where the holy orators are the best and are best heard,[‡‡] and it must also be the site of academies, since they must give birth to the sciences and truth that is to be disseminated in the rest of

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[*] Ibid. ch. XI, pp. 25-27: "As in the Countryside or villages there are only peasants, the Artisans must be distributed in the small towns, having only in the big Towns, or the Capital cities, the leading people and those Artisans who are absolutely necessary."

[†] Ibid. ch. XVIII, pp. 51-54: "The size that the country, the Province, must have; or the district in which one will situate the Capital city."

[‡] Ibid. ch. IV, pp. 11-12: "The Capital city does not only possess the useful, but also the honor, not only of wealth, but also of rank and glory."

[§] Ibid. ch. XVIII, p. 52: "(The Capital) will be the political heart giving life and movement to the entire body of the Province, through the fundamental principle of the ruling science, which forms a whole of several parts, without destroying them."

[**] Ibid. ch. XXIII, p. 69: "It is (...) necessary that the Prince's Eye casts its rays over the movements of his people, that he observes their conduct, can note them closely, and that his presence alone keeps vice, disorder, and injustice in check. This can best be achieved only through the union of the parts in the *Metropolitaine*."

[††] Ibid. pp. 67-72: "The Sovereign's presence is necessary in his Estates where the greatest commerce takes place, to be witness of the actions and trade of his Subjects, to keep them in equity and fear, to be seen by the people, and be like their Sun, which illuminates them by his presence."

[‡‡] Ibid. ch. XXVIII, pp. 79-87: "In the *Métropolitaine* the professors and preachers must be famous orators."

the country.* Finally, there is an economic role: the capital must be the site of luxury so that it is a point of attraction for products coming from other countries,† and at the same time, through trade, it must be the distribution point of manufactured articles and products, etcetera.‡

We can leave aside the strictly utopian aspect of this project. All the same, I think it is interesting because it seems to me that this is essentially a definition of the town, a reflection on the town, in terms of sovereignty. That is to say, the primary relationship is essentially that of sovereignty to the territory, and this serves as the schema, the grid, for arriving at an understanding of what a capital city should be and how it can and should function. Moreover, it is interesting how, through this grid of sovereignty, a number of specifically urban functions appear as the fundamental problem: economic, moral, and administrative functions etcetera. In short, the interesting thing is that Le Maître dreams of connecting the political effectiveness of sovereignty to a spatial distribution. A good sovereign, be it a collective or individual sovereign, is someone well placed within a territory, and a territory that is well policed in terms of its obedience to the sovereign is a territory that has a good spatial layout. All of this, this idea of the political effectiveness of sovereignty, is linked to the idea of an intensity of circulations: circulation of ideas, of wills, and of orders, and also commercial circulation. Ultimately, what is involved for Le Maître – and this is both an old idea, since it is a matter of sovereignty, and a modern idea, since it involves circulation – is the superimposition of the state of sovereignty, the territorial state, and the commercial state. It involves fastening them together and mutually reinforcing them. I don't need to tell you that in this period, and in this region of Europe, we are right in the middle of

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* Ibid. ch. XVIII, pp. 76-79: "There are powerful reasons for the foundation of Academies in the Capital cities, or *Métropolitaines*."

† Ibid. ch. XXVII, pp. 72-73: "The Capital, having the greatest consumption, must also be the site of commerce."

‡ Ibid. ch. V, pp. 12-13: "The essential and final cause of the Capital city can only be public Utility, and to this end it must be the most opulent."

mercantilism, or rather of cameralism,* that is to say, of the problem of how to ensure maximum economic development through commerce within a rigid system of sovereignty. In short, Le Maître's problem is how to ensure a well "capitalized" state, that is to say, a state well organized around a capital as the seat of sovereignty and the central point of political and commercial circulation. Since Le Maître was the general engineer of the Elector of Brandenburg, we could see here a filiation between the idea of a well "capitalized"† state or province, and Fichte's famous closed commercial state,‡ that is to say the evolution from cameralist mercantilism to the German national economy of the beginning of the nineteenth century. In any case, in this text the town-capital is thought in terms of relations of sovereignty exercised over a territory.

I will now take another example. I could just as well have taken it from the same part of the world, that is to say, from the region of Northern Europe extending from Holland to Sweden, around the North Sea and the Baltic Sea, which was so important in the thought and political theory of the seventeenth century. Kristiania,§ and Gothenburg** in Sweden would be examples. I will take an example from France. A

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* Cameralistics, or cameral science (*Cameralwissenschaft*), designates the science of finance and administration that developed from the seventeenth century in the "chambers" of princes, the organs of planning and bureaucratic control that will gradually replace traditional councils. In 1727 the discipline obtained the right to enter the universities of Halle and Frankfurt an der Oder, becoming an object of teaching for future state functionaries. See, M. Stolleis, *Geschichte des öffenntlichen Rechts in Deutschland, 1600-1800* (Munich: C.H. Beck, 1988) vol. 1; French translation by M. Senellart, *Histoire du droit public en Allemagne, 1600-1800* (Paris: PUF, 1998) pp. 556-558. The creation of chairs in *Oeconomie-Policey und Cammersachen* was the result of the desire of Frederick William I of Prussia to modernize the administration of his realm and to add the study of economics to that of law in the training of future functionaries. A.W. Small summarizes the thought of the cameralists in the following way: "To the cameralists the central problem of science was the problem of the state. To them the object of all social theory was to show how the welfare of the state might be secured. They see in the welfare of the state the source of all other welfare. Their key to the welfare of the state was revenue to supply the needs of the state. Their whole social theory radiated from the central task of furnishing the state with ready means." A.W. Small, *The Cameralists: The pioneers of German social polity* (Chicago: The University of Chicago Press, and London: T. Fisher Unwin, 1909) p. viii. On mercantilism, see below lecture of 5 April, p. 337.

† The inverted commas appear in the manuscript for the lectures, p. 8.

‡ Johann Gottlieb Fichte (1762-1814), *Der geschlossene Handelsstaat* (Tübingen: Gotta); French translation by J. Gibelin, *L'État commercial fermé* (Paris: Librairie générale de droit et de jurisprudence, 1930; new edition with introduction and notes by D. Schulthess, Lausanne: L'Âge d'homme, 1980). In this work dedicated to the Minister of Finance, the economist Struensee, Fichte protests against both liberalism and mercantilism, that he accuses of impoverishing the majority of the population, and opposes to them the model of a contractually founded "State of reason" controlling production and planning the allocation of resources.

§ Kristiania, or Christiania: old name for the capital of Norway (today Oslo, since 1925), rebaptized by the king Christian IV in 1624 after the fire that destroyed the town. Foucault always says "Kristiania."

** Founded by Gustave II Adolphe in 1619, the town was constructed on the model of Dutch cities because of marshy terrain.

whole series of artificial towns were built, some in Northern Europe and some here in France, in the time of Louis XIII and Louis XIV. Take a little town called Richelieu, which was built from scratch on the borders of Touraine and Poitou.*   A town is built where previously there was nothing. How is it built? The famous form of the Roman camp is used, which, along with the military institution, was being reutilized at this time as a fundamental instrument of discipline. The form of the Roman camp was revived at the end of the sixteenth and the beginning of the seventeenth century, precisely in protestant countries – and hence the importance of all this in Northern Europe – along with the exercises, the subdivision of troops, and collective and individual controls in the major undertaking of the disciplinarization of the army.†   Now, whether it is Kristiania, Gothenburg, or Richelieu, the form of the camp is used. The form is interesting.   Actually, in the previous case, Le Maître's *La Métropolitée*, the lay-out of the town was basically thought in terms of the most general, overall category of the territory. One tried to think about the town through a macrocosm, since the state itself was thought of as an edifice. In short, the interplay of macrocosm and microcosm ran through the problematic of the relationship between town, sovereignty, and territory. In the case of towns constructed in the form of the camp, we can say that the town is not thought of on the basis of the larger territory, but on the basis of a smaller, geometrical figure, which is a kind of architectural module, namely the square or rectangle, which is in turn subdivided into other squares or rectangles.

It should be stressed straightaway that, in the case of Richelieu at least, as in well-planned camps and good architecture, this figure, this module, is not merely the application of a principle of symmetry. Certainly, there is an axis of symmetry, but it is framed by and functions thanks to well-calculated dissymetries.   In a town like Richelieu, for

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* Situated to south east of Chinon (Indre-et-Loire), on the side of the Mable, the town was built by Cardinal Richelieu, who demolished the old hovels, on the site of the patrimonial domain, in order to reconstruct it, starting in 1631, on a regular plan outlined by Jacques Lemercier (1585-1654). The work was directed by the latter's brother, Pierre Lemercier, who provided the plans of the chateau and the town in its entirety.

† The Roman camp (*castra*) was a square or a rectangle subdivided into different squares and rectangles. On the Roman *castramétation* (or art of establishing armies in the camps), see the very detailed note in the *Nouvelle Larousse illustré*, vol. 2, 1899, p. 431. On the revival of this model, at the beginning of the seventeenth century, as condition of military discipline and ideal form for "observatories" of human multiplicities" – "The camp is the diagram of a power that acts by means of general visibility" – see *Surveillir et Punir*, pp. 173-174, and fig. 7; *Discipline and Punish*, pp.170-172. The bibliography cited by Foucault is mainly French, with the exception of the treatise of J.J. von Wallhausen, *L'Art militaire pour l'infanterie* (Francker: Uldrick Balck, 1615) translation by J.Th. de Bry of *Kriegskunst zu Fusz* (cited p. 172, n. 1; trans. p. 171, n. 1, p. 316). Wallhausen was the first director of the *Schola militaris* founded at Siegen in Holland by Jean de Nassau in 1616. On the characteristics of the Dutch "military revolution" and its spread in Germany and Sweden, see the rich bibliography given by G. Parker in, *The Thirty Years' War* (London: Routledge and Kegan Paul, 1984); French translation, *La Guerre de Trente Ans*, trans. A. Charpentier (Paris: Aubier, 1987).

example, there is a central street that divides the rectangle of the town into two rectangles, and then there are other streets, some parallel to and others at right angles to the central street, but at different distances from each other, some closer, others further apart, such that the town is subdivided into rectangles of different sizes, going from the larger to the smaller. The biggest rectangles, that is to say, where the streets are furthest apart, are at one end of the town, and the smallest, with the tighter grid, are at the other. People must live on the side of the biggest rectangles, where the grid is widest and the roads are broad. Conversely, trades, artisans, and shops, as well as markets, must be situated where the grid is much tighter. And this commercial area – we can see how the problem of circulation [... *], more trade means more circulation and the greater need for streets and the possibility of cutting across them, etcetera – is flanked by the church on one side, and by the market on the other. There will be two categories of houses in the residential area where the rectangles are bigger. On the one hand, there are those overlooking the main thoroughfare, or the streets parallel to it, which will be houses with a number of floors, two I think, and attics. On the other hand, the smaller houses with only one floor will be in the streets perpendicular to the main street: difference of social status, of wealth, etcetera. In this simple schema I think we find again the disciplinary treatment of multiplicities in space, that is to say, [the] constitution of an empty, closed space within which artificial multiplicities are to be constructed and organized according to the triple principle of hierarchy, precise communication of relations of power, and functional effects specific to this distribution, for example, ensuring trade, housing, and so on. For Le Maître and his *Métropolitée* what was involved was "capitalizing" a territory. Here, it is a case of structuring a space. Discipline belongs to the order of construction (in the broad sense of construction).

And now, the third example. This will be the real development of towns that actually existed in the eighteenth century. There are a whole series of them. I will take the example of Nantes, which was studied in 1932, I think, by someone called Pierre Lelièvre, who provided different construction and development plans for Nantes.† It is an important town because, on the one hand, it is undergoing commercial development, and, on the other, its relations with England meant that the English model was employed. The problem of Nantes is, of course, getting rid overcrowding, making room for new economic and administrative functions, dealing with relationships with the surrounding countryside, and finally allowing for growth. I will skip the nonetheless delightful

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* Incomplete sentence.

† P. Lelièvre, *L'Urbanisme et l'Architecture à Nantes au XVIIIe,* doctoral thesis (Nantes: Librairie Durance, 1942).

project of an architect called Rousseau who had the idea of reconstructing Nantes around a sort of boulevard-promenade in the form of a heart.[*] It's true that he is dreaming, but the project is nonetheless significant. We can see that the problem was circulation, that is to say, for the town to be a perfect agent of circulation it had to have the form of a heart that ensures the circulation of blood. It's laughable, but after all, at the end of the eighteenth century, with Boullée,[†] Ledoux,[‡] and others, architecture still often functions according to such principles, the good form having to be the support of the exact exercise of the function. In actual fact, the projects realized at Nantes did not have the form of the heart. They were projects, and one project in particular put forward by someone called Vigné de Vigny,[§] in which there was no question of reconstructing everything, or of imposing a symbolic form that could ensure the function, but projects in which something precise and concrete was at stake.

It involved cutting routes through the town, and streets wide enough to ensure four functions. First hygiene, ventilation, opening up all kinds of pockets where morbid miasmas accumulated in crowded quarters, where dwellings were too densely packed. So, there was a hygienic function. Second, ensuring trade within the town. Third, connecting up this network of streets to external roads in such a way that goods from outside can arrive or be dispatched, but without giving up the requirements of customs control. And finally, an important problem for towns in the eighteenth century was allowing for surveillance, since the suppression of city walls made necessary by economic development meant that one could no longer close towns in the evening or closely supervise daily comings and goings, so that the insecurity of the towns

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[*] *Plan de la ville de Nantes et des projets d'embellissement ;présentés par M. Rousseau, architecte,* 1760, with this dedication: "Illustrissimo atque ornatissimo D. D. Armando Duplessis de Richelieu, duci Aiguillon, pari Franciae." See P. Lelièvre, *L'Urbanisme*, pp. 89-90. "The only interest of such an utterly arbitrary imagination is its disconcerting fantasy." The plan of Nantes, with its heart form, is reproduced on the verso of p. 87. See also p. 205: "Is it absurd to suppose that the idea of 'circulation' could have inspired this anatomical figure criss-crossed with arteries? We go no further with this analogy confined to the schematic and stylized contour of the organ of circulation."

[†] Étienne-Louis Boullée (1728-1799), French architect and designer. He preached the adoption of geometrical forms inspired by nature (see his projects for a Museum, a National Library, and a capital Palace for a great empire, or a tomb in honor of Newton, in J. Starobinski, *1789, Les Emblèmes de la raison* (Paris: Flammarion, 1973) pp. 62-67; English translation by Barbara Bray, *1789, The Emblems of Reason* (Charlottesville: University Press of Virginia, 1982) pp. 77-81.

[‡] Claude-Nicolas Ledoux (1736-1806), French architect and designer, author of *L'Architecture considérée sous le rapport de l'art, des mœurs et de la législation* (Paris: published by the author, 1804).

[§] *Plan de la ville de Nantes, avec les changements et les accroissements par le sieur de Vigny, architecte du Roy et da la Société de Londres, intendant des bâtiments de Mgr le duc d'Orleans. – Fait par nous, architecte du Roy, à Paris, le 8 avril 1755.* See, P. Lelièvre, *L'Urbanisme*, pp. 84-89; see also the study devoted to him by L. Delattre, in *Bulletin de la Société archéologique et historique de Nantes* (1911) vol. LII, pp. 75-108.

was increased by the influx of the floating population of beggars, vagrants, delinquents, criminals, thieves, murderers, and so on, who might come, as everyone knows, from the country [... *].   In other words, it was a matter of organizing circulation, eliminating its dangerous elements, making a division between good and bad circulation, and maximizing the good circulation by diminishing the bad. It was therefore also a matter of planning access to the outside, mainly for the town's consumption and for its trade with the outside.   An axis of circulation with Paris was organized, the Erdre was developed along which wood for heating was bought from Brittany.   Finally, Vigny's redevelopment plan involved responding to what is, paradoxically, a fairly new and fundamental question of how to integrate possible future developments within a present plan.   This was the problem of the commerce of the quays and what was not yet called the docks.   The town is seen as developing: a number of things, events and elements, will arrive or occur. What must be done to meet something that is not exactly known in advance? The idea is quite simply to use the banks of the Loire to build the longest, largest possible quays. But the more the town is elongated, the more one loses the benefit of that kind of clear, coherent grid of subdivisions.   Will it be possible to administer a town of such considerable extent, and will circulation be able to take place if the town is indefinitely elongated? Vigny's project was to construct quays along one side of the Loire, allow a quarter to develop, and then to construct bridges over the Loire, resting on islands, and to enable another quarter to develop starting from these bridges, a quarter opposite the first, so that the balance between the two banks of the Loire would avoid the indefinite elongation of one of its sides.

The details of the planned development are not important. I think the plan is quite important, or anyway significant, for a number of reasons. First, there is no longer any question of construction within an empty or emptied space, as in the case of those, let's say, disciplinary towns such as Richelieu, Kristiania, and suchlike. Discipline works in an empty, artificial space that is to be completely constructed. Security will rely on a number of material givens. It will, of course, work on site with the flows of water, islands, air, and so forth. Thus it works on a given. [Second], this given will not be reconstructed to arrive at a point of perfection, as in a disciplinary town. It is simply a matter of maximizing the positive elements, for which one provides the best possible circulation, and of minimizing what is risky and inconvenient, like theft and disease, while knowing that they will never be completely suppressed. One will therefore work not only on natural givens, but also on quantities that can be relatively, but never wholly reduced, and, since

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* Some inaudible words.

they can never be nullified, one works on probabilities. Third, these town developments try to organize elements that are justified by their poly-functionality. What is a good street? A good street is one in which there is, of course, a circulation of what are called miasmas, and so diseases, and the street will have to be managed according to this necessary, although hardly desirable role. Merchandise will be taken down the street, in which there will also be shops. Thieves and possibly rioters will also be able to move down the street. Therefore all these different functions of the town, some positive and others negative, will have to be built into the plan. Finally, the fourth important point, is that one works on the future, that is to say, the town will not be conceived or planned according to a static perception that would ensure the perfection of the function there and then, but will open onto a future that is not exactly controllable, not precisely measured or measurable, and a good town plan takes into account precisely what might happen. In short, I think we can speak here of a technique that is basically organized by reference to the problem of security, that is to say, at bottom, to the problem of the series. An indefinite series of mobile elements: circulation, x number of carts, x number of passers-by, x number of thieves, x number of miasmas, and so on.[*] An indefinite series of events that will occur: so many boats will berth, so many carts will arrive, and so on. And equally an indefinite series of accumulating units: how many inhabitants, how many houses, and so on. I think the management of these series that, because they are open series can only be controlled by an estimate of probabilities, is pretty much the essential characteristic of the mechanism of security.

To summarize all this, let's say then that sovereignty capitalizes a territory, raising the major problem of the seat of government, whereas discipline structures a space and addresses the essential problem of a hierarchical and functional distribution of elements, and security will try to plan a milieu in terms of events or series of events or possible elements, of series that will have to be regulated within a multivalent and transformable framework. The specific space of security refers then to a series of possible events; it refers to the temporal and the uncertain, which have to be inserted within a given space. The space in which a series of uncertain elements unfold is, I think, roughly what one can call the milieu. As you well know, the milieu is a notion that only appears in

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[*] Foucault repeats: An indefinite series of mobile elements.

biology with Lamarck.[*] However, it is a notion that already existed in physics and was employed by Newton and the Newtonians.[†] What is the milieu? It is what is needed to account for action at a distance of one body on another. It is therefore the medium of an action and the element in which it circulates.[‡] It is therefore the problem of circulation and causality that is at stake in this notion of milieu. So, I think the architects, the town planners, the first town planners of the eighteenth century, did not actually employ the notion of milieu, since, as far as I have been able to see, it is never employed to designate towns or planned spaces. On the other hand, if the notion does not exist, I would say that the technical schema of this notion of milieu, the kind of – how to put it? – pragmatic structure which marks it out in advance is present in the way in which the town planners try to reflect and modify urban space. The apparatuses of security work, fabricate, organize, and plan a milieu even before the notion was formed and isolated. The milieu, then, will be that in which circulation is carried out. The milieu is a set of natural givens – rivers, marshes, hills – and a set of artificial givens – an agglomeration of individuals, of houses, etcetera. The milieu is a certain number of combined, overall effects bearing on all who live in it. It is an element in which a circular link is produced between effects and causes, since an effect from one point of view will be a cause from another. For example, more overcrowding will mean more miasmas, and so more disease. More disease will obviously mean more deaths. More deaths will mean more cadavers, and consequently more miasmas, and so on. So it is this phenomenon of circulation of causes and effects that is targeted through the milieu. Finally, the milieu appears as a field of intervention in which,

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[*] Jean-Baptiste Monet de Lamarck (1744-1829), author of *Philosophie zoologique* (1809); see, George Canguilhem, "Le vivant et son milieu," in his *La Connaissance de la vie* (Paris: Vrin, 1965, p. 131): "Lamarck always speaks of milieus, in the plural, and by this expression he understands fluids like water, air, and light. When Larmarck wants to designate the set of actions exerted on a living being from outside, that is to say what we today call the milieu, he never says the milieu, but always, "influential circumstances (*circonstances influentes*)." Consequently, for Lamarck, circumstances is a genus of which climate, location and milieu are the species."

[†] See G. Canguilhem, ibid. pp. 129-130: "Considered historically, the notion and word milieu were imported into biology from mechanics in the second half of the eighteenth century. The mechanical notion, but not the word, appears with Isaac Newton, and the word, with its mechanical meaning, is present in D'Alembert's and Diderot's *Encyclopedia*. (...) The French mechanists called milieu what Newton understood by fluid, the type, if not the archetype, of which in Newton's physics is the ether." Canguilhem explains that it is through the intermediary of Buffon that Lamarck borrows from Newton the explanatory model of an organic reaction through the action of a milieu. On the emergence of the idea of milieu in the second half of the eighteenth century, through the notion of "penetrating forces (*forces pénétrantes*)" (Buffon), see Foucault, *Histoire de la folie*, pp. 385-392*; Madness and Civilization,* pp. 212-220. ("A negative notion (...) which appeared in the eighteenth century to explain variations and diseases rather than adaptations and convergences. As if these "penetrating forces" formed the other, negative side of what will subsequently become the positive notion of milieu" p. 385 [this passage is omitted from the English translation])

[‡] G. Canguilhem, *Connaisance de la vie*, p. 130: "The problem to be solved for mechanics in Newton's time was that of the action at a distance of distinct physical individuals."

instead of affecting individuals as a set of legal subjects capable of voluntary actions – which would be the case of sovereignty – and instead of affecting them as a multiplicity of organisms, of bodies capable of performances, and of required performances – as in discipline – one tries to affect, precisely, a population. I mean a multiplicity of individuals who are and fundamentally and essentially only exist biologically bound to the materiality within which they live. What one tries to reach through this milieu, is precisely the conjunction of a series of events produced by these individuals, populations, and groups, and quasi natural events which occur around them.

It seems to me that with this technical problem posed by the town – but this is only one example, there are many others and we will come back to this – we see the sudden emergence of the problem of the "naturalness"* of the human species within an artificial milieu. It seems to me that this sudden emergence of the naturalness of the species within the political artifice of a power relation is something fundamental, and to finish I will just refer to a text from someone who was no doubt the first great theorist of what we could call bio-politics, bio-power. He speaks of it in connection with something different, the birth rate, which was of course one of the major issues, but very quickly we see the notion of milieu appear here as the target of intervention for power, and which appears to me completely different from the juridical notion of sovereignty and the territory, as well as from disciplinary space. [With regard to] this idea of an artificial and natural milieu, in which artifice functions as a nature in relation to a population that, while being woven from social and political relations, also functions as a species, we find in Moheau's *Recherches sur la population*† a statement of this kind: "It is up to the government to change the air temperature and to improve the climate; a direction given to stagnant water, forests planted or burnt down, mountains destroyed by time or by the continual cultivation of

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* In inverted commas in the manuscript, p. 16. Foucault writes: "To say that this is the sudden emergence of the "naturalness" of the human species in the field of techniques of power would be excessive. But what [before] then appeared above all in the form of need, insufficiency, or weakness, illness, now appears as the intersection between a multiplicity of living individuals working and coexisting with each other in a set of material elements that act on them and on which they act in turn."

† Moheau, *Recherches et Considérations sur la population de la France* (Paris: Moutard, 1778; republished with an introduction and analytical table by R. Gonnard, Paris: P. Geuthner, "Collection des économistes et des réformateurs sociaux de la France," 1912; republished, annotated by E. Vilquin, Paris: INED/PUF, 1994). According to J.-Cl. Perrot, *Une histoire intellectuelle de l'économie politique, XVIIᵉ-XVIIIᵉ siècle* (Paris: Éd. de l'EHESS, "Civilisations et Sociétés," 1992) pp. 175-176 this book constitutes "the true "spirit of the laws" of demography of the eighteenth century." The identity of the author ("Moheau," with no forename) has been the subject of controversy since the book was published. Behind the pseudonym, some have identified the baron Auget de Montyon, successively the *intendant* of Riom, Aix, and La Rochelle. It now appears to have been established that it was written by Jean-Baptiste Moheau, who was his secretary until 1775, and who died on the guillotine in 1794. See R. Le Mée, "Jean-Baptiste Moheau (1745-1794) et les *Recherches ...* Un auteur énigmatique ou mythique?" in Moheau, *Recherches et Conidérations*, 1994 edition, pp. 313-365.

their surface, create a new soil and a new climate. The effect of time, of occupation of the land, and of vicissitudes in the physical domain, is such that the most healthy districts become morbific."[*] He refers to a verse in Virgil concerning wine freezing in barrels, and says: Will we ever see wine freeze in barrels today in Italy?[†] Well, if there has been so much change, it is not the climate that has changed; the political and economic interventions of government have altered the course of things to the point that nature itself has constituted for man, I was going to say another milieu, except that the word "milieu" does not appear in Moheau. In conclusion he says: "If the unknown principle that forms the character and the mind is the outcome of the climate, the regime, the customs, and the habit of certain actions, we can say that sovereigns, by wise laws, by useful establishments, through the inconvenience of taxes, and the freedom resulting from their suppression, in short by their example, govern the physical and moral existence of their subjects. Perhaps one day we will be able to call on these means to give whatever hue we wish to morality and the national spirit."[‡] You can see that we again encounter the problem of the sovereign here, but the sovereign is no longer someone who exercises his power over a territory on the basis of a geographical localization of his political sovereignty. The sovereign deals with a nature, or rather with the perpetual conjunction, the perpetual intrication of a geographical, climatic, and physical milieu with the human species insofar as it has a body and a soul, a physical and a moral existence; and the sovereign will be someone who will have to exercise power at that point of connection where nature, in the sense of physical elements, interferes with nature in the sense of the nature of the human species, at that point of articulation where the milieu becomes the determining factor of nature. This is where the sovereign will have to intervene, and if he wants to change the human species, Moheau says, it will be by acting on the milieu. I think we have here one of the axes, one of the fundamental elements in this deployment of mechanisms of security, that is to say, not yet the appearance of a notion of milieu, but the appearance of a project, a political technique that will be addressed to the milieu.

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[*] *Recherches et Considérations*, Book II, part 2, ch. XVII: "The influence of Government on all the causes that can determine the progress or the loss of population," 1778 edition, pp.154-155; 1912 edition, pp. 291-292; and 1994 edition, p. 307. The sentence is completed with " (...) and no relationship at all is found between the degrees of cold and warmth in the same countries in different epochs."

[†] Ibid.: "Virgil astonishes us when he speaks of wine freezing in barrels in Italy; certainly the Roman countryside was not what it is today, of the time of the Romans who improve the habitation of all the places that they submit to their domination" (1778, p. 155; 1912, p. 292, 1994, p. 307).

[‡] Ibid. p. 157; p. 293; pp. 307-308.

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*General features of apparatuses of security (III). – Normation (*normation*) and normalization. – The example of the epidemic (smallpox) and inoculation campaigns in the eighteenth century. – The emergence of new notions: case, risk, danger, and crisis. – The forms of normalization in discipline and in mechanisms of security. – Deployment of a new political technology: the government of populations. – The problem of population in the mercantilists and the physiocrats. – The population as operator (*operateur*) of transformations in domains of knowledge: from the analysis of wealth to political economy, from natural history to biology, from general grammar to historical philology.*

IN PREVIOUS YEARS[*] I have tried to bring out something of what seems to me to be specific in disciplinary mechanisms in comparison with what we can call, broadly speaking, the system of the law. This year my plan was to bring out what is specific, particular, or different in the apparatuses of security when we compare them with the mechanisms of discipline I have tried to identify. So I wanted to emphasize the opposition, or at any rate the distinction between security and discipline. The immediate, and immediately perceptible and visible, aim of this, of course, is to put a stop to repeated invocations of the master as well as to the monotonous assertion of power. Neither power nor master, neither Power nor the master, and neither one nor the other as God. In the first lecture I tried to show how the distinction between discipline and security could be grasped by considering the different ways in which they dealt with and planned spatial distributions. Last week I tried to show you how discipline and security each dealt differently with what we can call the event, and today, briefly, because I would like to get to the heart, and in a sense the end of the problem, I would like to try to show you how each deals differently with what we call normalization.

You know better than me the unfortunate fate of this word "normalization." What is not normalization? I normalize, you normalize, and so on. However, let's try to identify some of the important points in

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[*] Foucault adds: in short, the previous years, one or two years, let's say those that have just passed.

all this. First, some people, prudently re-reading Kelsen in these times,[*] have noticed that he said, demonstrated, or wanted to show that there was and could not fail to be a fundamental relationship between the law and the norm, and that every system of law is related to a system of norms. I think it really is necessary to show that the relationship of the law to the norm does in fact indicate that there is something that we could call a normativity intrinsic to any legal imperative, but this normativity intrinsic to the law, perhaps founding the law, cannot be confused with what we are trying to pinpoint here under the name of procedures, processes, and techniques of normalization. I would even say instead that, if it is true that the law refers to a norm, and that the role and function of the law therefore – the very operation of the law – is to codify a norm, to carry out a codification in relation to the norm, the problem that I am trying to mark out is how techniques of normalization develop from and below a system of law, in its margins and maybe even against it.

Let's now take discipline. I think it is indisputable, or hardly disputable, that discipline normalizes. Again we must be clear about the specificity of disciplinary normalization. You will forgive me for summarizing very roughly and schematically things that have been said a thousand times. Discipline, of course, analyzes and breaks down; it breaks down individuals, places, time, movements, actions, and operations. It breaks them down into components such that they can be seen, on the one hand, and modified on the other. It is this famous disciplinary, analytical-practical grid that tries to establish the minimal elements of perception and the elements sufficient for modification. Second, discipline classifies the components thus identified according to definite objectives. What are the best actions for achieving a particular result: What is the best movement for loading one's rifle, what is the best

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[*] Hans Kelsen (1881-1973). Born in Prague, Kelsen taught public law and philosophy at Vienna from 1919 to 1929, then at Cologne from 1930 to 1933. Dismissed by the Nazis, he pursued his career at Geneva (1933-1938) and Berkeley (1942-1952). He was a founder of the Vienna School (around the *Zeitschrift für öffentliches Recht* created in 1914) which radicalized the doctrine of juridical positivism, and in his *Reine Rechtslehre* (Vienna: 1960, 2nd ed.); French translation by H. Thévenaz, *Théorie pure du droit*, 1st ed. (Neuchâtel: La Baconnière, 1953), 2nd ed., trans. Ch. Eisenmann (Paris: Dalloz, 1962); English translation by Max Knight, *Pure Theory of Law*, (Berkeley: University of California Press, 1967) he defended a normativist conception of law, according to which the law constitutes a hierarchical and dynamic system of norms connected to each other by a relationship of imputation (distinct from the relationship of causality on which scientific reasoning is based), that is to say, "the relation between a certain behavior as condition and a sanction as consequence" (*General Theory of Norms*, ch. 7, § II, p. 24). To avoid infinite regress (every juridical power can only derive from higher juridical authorization), this system gets its validity from a basic norm (*Grundnorm*), not posited like other norms, but presupposed and thereby suprapositive, which "represents the ultimate reason for the validity of all the legal norms forming the legal order" (ibid. ch. 59, p. 255). See also his posthumous work, *Allgemeine Theorie der Normen* (Vienna: Manz Verlag, 1979); English translation by Michael Hartney, *General Theory of Norms* (Oxford: Oxford University Press, 1991). On Kelsen, see the comments of G. Canguilhem, *Le Normal et le Pathologique* (Paris: PUF, 1975, 3rd ed.) pp. 184-185; English translation, *On the Normal and the Pathological*, trans. Carolyn R. Fawcett (Dordrecht and London: D. Reidel, 1978) p. 153.

position to take? What workers are best suited for a particular task? What children are capable of obtaining a particular result? Third, discipline establishes optimal sequences or co-ordinations: How can actions be linked together? How can soldiers be deployed for a maneuver? How can schoolchildren be distributed hierarchically within classifications? Fourth, discipline fixes the processes of progressive training (*dressage*) and permanent control, and finally, on the basis of this, it establishes the division between those considered unsuitable or incapable and the others. That is to say, on this basis it divides the normal from the abnormal. Disciplinary normalization consists first of all in positing a model, an optimal model that is constructed in terms of a certain result, and the operation of disciplinary normalization consists in trying to get people, movements, and actions to conform to this model, the normal being precisely that which can conform to this norm, and the abnormal that which is incapable of conforming to the norm. In other words, it is not the normal and the abnormal that is fundamental and primary in disciplinary normalization, it is the norm. That is, there is an originally prescriptive character of the norm and the determination and the identification of the normal and the abnormal becomes possible in relation to this posited norm. Due to the primacy of the norm in relation to the normal, to the fact that disciplinary normalization goes from the norm to the final division between the normal and the abnormal, I would rather say that what is involved in disciplinary techniques is a normation (*normation*) rather than normalization. Forgive the barbaric word, I use it to underline the primary and fundamental character of the norm.

Now, from the point of view of normalization, what happens with this set of apparatuses that I have called, with a word that is certainly not satisfactory and to which we will have to return, apparatuses of security? How does one normalize? After the examples of the town and scarcity, I would like to take the example, which is almost necessary in this series, of the epidemic, and of smallpox in particular, which was an endemic-epidemic disease in the eighteenth century.[*] It was an important problem, of course, first of all because smallpox was definitely the most widely endemic of all the diseases known at this time, since every newborn child had a 2 out of 3 chance of getting it. As a general rule, and for the whole

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[*] See the doctoral medical thesis of Anne-Marie Moulin, *La Vaccination anti-variolique. Approche historique de l'évolution des idées sur les maladies transmissibles et leur prophylaxie*, (Paris: Université Pierre et Marie Curie (Paris 6)-Faculté de Médecine Pitié Salpétrière, 1979). The author of this thesis gave an account of "the campaigns of variolization in the eighteenth century," in 1978 in Foucault's course (see below, Course Summary, p. 367). See also, J. Hecht, "Un débat médical au XVIIIe siècle, l'inoculation de la petite vérole," *Le Concours médical*, 18, 1 May 1959, pp. 2147-2152, and the two works that appeared the year before this course: P.E. Razzell, *The Conquest of Smallpox: The impact of inoculation on smallpox mortality in the 18th century* (Firle: Caliban Books, 1977) and G. Miller, *The Adoption of Inoculation for Smallpox in England and France* (Philadelphia: University of Philadelphia Press, 1977) that Foucault was able to consult.

population, the [mortality]* rate [for] smallpox was 1 in 7.782, almost 1 in 8. So, it was a widely endemic phenomenon with a very high mortality rate. Second, it was a phenomenon that also had the feature of sudden, very strong and intense epidemic outbursts. In London in particular, at the end of the seventeenth and the start of the eighteenth century there were very intense epidemic outbursts at intervals of rarely more than 5 or 6 years. Third, finally, smallpox is evidently a privileged example since, from 1720, with what is called inoculation or variolization,† and then from 1800 with vaccination,‡ techniques were available with the fourfold characteristic, which was absolutely out of the ordinary in the medical practices of the time, of first, being absolutely preventative, second, having almost total certainty of success, third, being in principle able to be extended to the whole population without major material or economic difficulties, and fourth, and above all, variolization first of all, but still vaccination at the start of the nineteenth century, had the considerable advantage of being completely foreign to any medical theory.   The practice of variolization and vaccination, the success of variolization and vaccination were unthinkable in the terms of medical rationality of this time.§   It was a pure matter of fact,** of the most naked empiricism, and this remained the case until the middle of the nineteenth century, roughly with Pasteur, when medicine was able to provide a rational understanding of the phenomenon.

We have, then, techniques that can be generalized, are certain, preventative, and absolutely inconceivable in the terms of medical theory. What happened and what were the effects of these purely empirical

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* M.F.: morbidity

† The first word was employed in the eighteenth century with reference to processes of plant graft. The second was only used in the nineteenth century.

‡ From 1800 Jenner's vaccination progressively replaces inoculation. See E. Jenner, *An Inquiry into the Causes and Effects of the Variolae Vaccinae* (1798) (London: Dawson, 1966, reproduction of the 1st edition); R. Le Droumaguet, *À propos du centenaire de Jenner. Notes sur l'histoire des premières vaccinations contre la variole*, Medical thesis, Belfort-Mulhouse, 1923; A-M. Moulin, *La Vaccination anti-variolique*, pp. 33-36.

§ See A-M. Moulin, *La Vaccination anti-variolique*, p. 36: "[At the end of the eighteenth century] medicine had not elucidated the profound meaning of inoculations," and p. 42, this quotation of Berthollet concerning the "modification" introduced into the organism by the vaccine: "What is the nature of this difference and this change?   No-one knows; experience alone proves its reality" (*Exposition des faits recueillis jusqu'à présent concernant les effets de la vaccination*, 1812).

** Inoculation was practiced in China from the seventeenth century and in Turkey (see A.-M. Moulin, *La Vaccination anti-variolique*, pp. 12-22). For Chinese practice see the letter of Father La Coste in 1714 which appeared in the *Mémoires de Trévoux*, and, for Turkey, the debate on inoculation in the Royal Society, in England, drawing on merchant's reports of the East India Company. On 1 April 1717, Lady Montaigu, wife of the English ambassador in Istanbul and one of the most zealous propagandists of inoculation in her country, wrote to a correspondent: "Smallpox, so fatal and frequent among us, is here rendered inoffensive by the discovery of inoculation (...). There is a group of old women here who are specialists in this operation" (quoted by Moulin, ibid. pp. 19-20).

techniques in the domain of what could be called medical police?*   I think that variolization first of all, and then vaccination, benefited from two supports that made possible [their] insertion in the real practices of population and government of Western Europe. First, of course, thanks to the statistical instruments available, the certain and generally applicable character of vaccination and variolization made it possible to think of the phenomena in terms of the calculus of probabilities.†   To that extent, we can say that variolization and vaccination benefited from a mathematical support that was at the same time a sort of agent of their integration within the currently acceptable and accepted fields of rationality. Second, it seems to me that the second support, the second factor of the importation, of the immigration of these practices into accepted medical practices – despite its foreignness, its heterogeneity with regard to medical theory – was the fact that variolization and vaccination were integrated, at least analogically and through a series of important resemblances, within the other mechanisms of security I have been talking about.   What seemed to me important and very typical of mechanisms of security concerning scarcity, was precisely that whereas the juridical-disciplinary regulations that reigned until the middle of the eighteenth century tried to prevent the phenomenon of scarcity, from the middle of the eighteenth century, with the physiocrats as well as many other economists, there was the attempt to find a point of support in the processes of scarcity themselves, in the kind of quantitative fluctuation that sometimes produced abundance and sometimes scarcity: finding support in the reality of the phenomenon, and instead of trying to prevent it, making other elements of reality function in relation to it in such a way that the phenomenon is cancelled out, as it were.   Now what was remarkable with variolization, and more especially with variolization than

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*   On this notion, see the article by M. Foucault, "La politique de la santé au XVIIIᵉ siècle," in *Les Machines à guérir. Aux origines de l'hôpital moderne; dossiers et documents* (Paris: Institut de l'environnement, 1976) pp. 11-21; *Dits et Écrits*, 3, pp. 15-27 (see pp. 17-18); English translation by Colin Gordon, "The Politics of Health in the Eighteenth Century" in M. Foucault, *Essential Works, 3,* pp. 90-110 (see pp. 94-95).

†   See A.-M. Moulin, *La Vaccination anti-variolique*, p. 26: "In 1760, the mathematician Bernoulli imparts the statistics more rigorously [than J. Jurin's tables, in the *Philosophical Transactions* of the Royal Society, in 1725], which is in fact the only theoretical justification for inoculation. (...) If inoculation is adopted, the result will be a gain of several thousand persons for civil society; even if it is deadly, as it kills children in the cradle, it is preferable to smallpox that causes the death of adults who have become useful to society; if it is true that the generalization of inoculation risks replacing the great epidemics with a permanent state of endemic disease, the danger is less because smallpox is a generalized eruption and inoculation affects only a small part of the surface of the skin."   Bernoulli concludes with the demonstration that if one neglects the point of view of the individual, "it will always be geometrically true that the interest of Princes is to favor inoculation" (D. Bernoulli, "Essai d'une nouvelle analyse de la mortalité causée par la petite vérole et des avantages de l'inoculation pour la prévenir," *Histoires et Mémoires de l'Académie des sciences*, 2, 1766). This essay, which dates from 1760, aroused the hostile reaction of D'Alembert, 12 November 1760, at the Academy of sciences. For a detailed analysis of Bernoulli's method of calculation and of the quarrel with D'Alembert, see H. Le Bras, *Naissance de la mortalité* (Paris: Gallimard-Le Seuil, "Hautes Études," 2000) pp. 335-342.

with vaccination, is that it did not try to prevent smallpox so much as provoke it in inoculated individuals, but under conditions such that nullification of the disease could take place at the same time as this vaccination, which thus did not result in a total and complete disease. With the support of this kind of first small, artificially inoculated disease, one could prevent other possible attacks of smallpox. We have here a typical mechanism of security with the same morphology as that seen in the case of scarcity. There is a double integration, therefore, within different technologies of security, and within the rationalization of chance and probabilities. This is no doubt what made these new techniques acceptable, if not for medical thought, at least for doctors, administrators, those responsible for the medical police, and finally for the people themselves.

Now, I think that through this typical practice of security we see a number of elements emerging that are absolutely important for the later extension of apparatuses of security. First, what do we see in all the processes of the practice of inoculation: in the supervision of those inoculated, in the set of calculations made in the attempt to determine whether or not it really is worth inoculating people, whether one risks dying from the inoculation, or dying from the smallpox itself? First of all we see that the disease is no longer apprehended in terms of the notion of "prevailing disease (*maladie régnante*)," which was still a very sound category, consistent with the medical thought and practice of the time.[*] As defined or described in seventeenth and still in eighteenth century medicine, a prevailing disease is a kind of substantial disease, if you like, which is united with a country, a town, a climate, a group of people, a region, a way of life. The prevailing disease was defined and described in terms of this mass, overall relationship between a disease and a place, a disease and a group of people. When quantitative analyses are made of smallpox in terms of success and failure, defeats and successful outcomes, when the different possibilities of death or contamination are calculated, the result is that the disease no longer appears in this solid relationship of the prevailing disease to its place or milieu, but as a distribution of cases in a population circumscribed in time or space. Consequently, the notion of case appears, which is not the individual case, but a way of individualizing the collective phenomenon of the disease, or of collectivizing the phenomena, integrating individual

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[*] On this notion, see M. Foucault, *Naissance de la clinique* (Paris: PUF "Galien", 1963) p. 24 (reference to L.S.D. Le Brun, *Traité théorique sur les maladies épidémiques* [Paris: Didot le jeune, 1776] pp. 2-3) and p. 28 (reference to F. Richard de Hautersierck, *Recueil d'observations. Médecine des hôpitaux militaires* [Paris: Imprimerie royale, 1766] vol. 1, pp. xxiv-xxvii); English translation by A.M. Sheridan Smith, *The Birth of the Clinic. An Archeology of Medical Perception* (London: Tavistock Publications, 1973) p. 25 and p. 29 [where "maladies régnantes" is translated as "common diseases"; G.B.].

phenomena within a collective field, but in the form of quantification and of the rational and identifiable. So, there is the notion of case.

Second, the following fact appears: If the disease is accessible in this way at the level of the group and at the level of each individual, in this notion, this analysis of the distribution of cases, then with regard to each individual or group we will be able to identify the risk for each of [catching]* smallpox, of dying from it or being cured. For each individual, given his age and where he lives, and for each age group, town, or profession, we will be able to determine the risk of morbidity and the risk of mortality. Thus, we will know the specific risk for each age group – here I refer to the text published by Duvillard right at the start of the nineteenth century, *Analyse de l'influence de la petite vérole*,† which is, as it were, the summation of all this quantitative research, which establishes all these quantitative facts accumulated [in the] eighteenth century and shows that for every child born there is a risk of getting smallpox that can be established as of the order of 2 in 3. If one catches smallpox, we can determine the risk of dying from it according to age group, if one is young or old, belongs to a particular milieu, if one follows a certain profession, and so on. We can also establish the risk of vaccination or variolization provoking the disease, and the risk of getting smallpox later despite variolization. So, there is the absolutely crucial notion of risk.

Third, this calculation of risk shows straightaway that the risks are not the same for all individuals, all ages, or in every condition, place or milieu. There are therefore differential risks that reveal, as it were, zones of higher risk and, on the other hand, zones of less or lower risk. This means that one can thus identify what is dangerous. [With regard to] the risk of smallpox, it is dangerous to be less than three years old. It is more dangerous to live in the town than in the country. So, after the notions of case and risk, there is the third important notion of danger.

Finally, phenomena of sudden worsening, acceleration, and increase of the disease can be identified that do not fall within the general category of epidemic, but are such that its spread at a particular time and place carries the risk, through contagion obviously, of multiplying cases that multiply other cases in an unstoppable tendency or gradient until the phenomenon is effectively checked by either an artificial or an enigmatic

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* M.F.: taking

† Emmanuel Étienne Duvillard (1755-1832), *Analyse et Tableaux de l'influence de la petite vérole sur la mortalité à chaque âge, et de celle qu'un préservatif tel que la vaccine peut avoir sur la population et la longévité* (Paris: Imprimerie impériale, 1806). On Duvillard, a "specialist of population statistics, but also a theorist of insurance and the calculation of annuities," see G. Thuillier, "Duvillard et la statistique en 1806," *Études et Documents* (Paris: Imprimerie nationale, Comité pour l'histoire économique et financière de la France, 1989) vol. 1, pp. 425-435; A. Desrosières, *La Politique des grands nombres. Histoire de la raison statistique* (Paris: La Découverte, 2000 [1993]) pp. 48-54.

natural mechanism. This phenomenon of sudden bolting, which regularly occurs and is also regularly nullified, can be called, roughly – not exactly in medical terminology, since the word was already used to designate something else – the crisis. The crisis is this phenomenon of sudden, circular bolting that can only be checked either by a higher, natural mechanism, or by an artificial mechanism.

Case, risk, danger, and crisis are, I think, new notions, at least in their field of application and in the techniques they call for, because a series of interventions will have the aim of precisely not following the previous practice of seeking purely and simply to nullify the disease in all the subjects in which it appears, or to prevent contact between the sick and the healthy. What, basically, was the aim of the disciplinary mechanisms, of the disciplinary system applied in epidemic regulations, or in regulations applied to endemic diseases like leprosy? It was, of course, first of all to treat the disease in each patient, insofar as they could be cured, and then to prevent contagion by isolating the sick from the healthy. What does the apparatus that appears with variolization-vaccination consist in? It is not the division between those who are sick and those who are not. It takes all who are sick and all who are not as a whole, that is to say, in short, the population, and it identifies the coefficient of probable morbidity, or probable mortality, in this population, that is to say the normal expectation in the population of being affected by the disease and of death linked to the disease. In this way it was established – and on this point all the statistics in the eighteenth century agree – that the rate of mortality from smallpox (*la petite vérole*)[*] was 1 in 7.782. Thus we get the idea of a "normal"[†] morbidity or mortality. This is the first thing.

The second thing is that with regard to the morbidity or mortality considered to be normal, one tries to arrive at a finer analysis that will make it possible to disengage different normalities in relation to each other. One will get the "normal" distribution[‡] of cases of and deaths due to smallpox (*la petite vérole*)[§] for every age, in each region, town, and different areas of the town, and in terms of different occupations. Thus one will have the normal, overall curve, and different curves considered to be normal. What technique will be used in relation to this? It will be to try to reduce the most unfavorable, deviant normalities in relation to the normal, general curve, to bring them in line with this normal, general curve. In this way, for example, when it was very quickly discovered that

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[*] M.F.: variola (smallpox; *variole*).

[†] normal is in inverted commas in the manuscript, p. 7.

[‡] normal is in inverted commas in the manuscript, p. 7.

[§] M.F.: variola

children under three years are affected by smallpox much more quickly, much more easily, much more strongly, and with a much higher rate of morbidity, the problem arose of how to reduce this infant morbidity and mortality so that it tends to fall in line with the average level of morbidity and mortality, which will itself be altered moreover by the fact that a section of individuals within this general population has a lower morbidity and mortality. It is at this level of the interplay of differential normalities, their separation out and bringing into line with each other, that – this is not yet epidemiology, the medicine of epidemics – the medicine of prevention will act.

We have then a system that is, I believe, exactly the opposite of the one we have seen with the disciplines. In the disciplines one started from a norm, and it was in relation to the training carried out with reference to the norm that the normal could be distinguished from the abnormal. Here, instead, we have a plotting of the normal and the abnormal, of different curves of normality, and the operation of normalization consists in establishing an interplay between these different distributions of normality and [in] acting to bring the most unfavorable in line with the more favorable. So we have here something that starts from the normal and makes use of certain distributions considered to be, if you like, more normal than the others, or at any rate more favorable than the others. These distributions will serve as the norm. The norm is an interplay of differential normalities.* The normal comes first and the norm is deduced from it, or the norm is fixed and plays its operational role on the basis of this study of normalities. So, I would say that what is involved here is no longer normation, but rather normalization in the strict sense.

So, over three weeks, the first two weeks and today, I have taken three examples: the town, scarcity, and the epidemic, or, if you like, the street, grain, and contagion. We can see straightaway that there is a very visible and clear link between these three phenomena: They are all linked to the phenomenon of the town itself. They all come back down to the first of the problems I tried to outline, for in the end the problem of scarcity and grain is the problem of the market town, and the problem of contagion and epidemic diseases is the problem of the town as the home of disease. The town as market is also the town as the place of revolt; the town as a center of diseases is the town as the site of miasmas and death. Anyway, it really is the problem of the town that is, I think, at the heart of these different examples of mechanisms of security. And if it is true that the outline of the very complex technology of securities appeared around the middle of the eighteenth century, I think that it is to the extent that the town posed new and specific economic and political problems of

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* Foucault repeats here: and the operation of normalization consists in establishing an interplay between these different distributions of normality.

government technique. Very roughly, since this would all have to be refined, let's say again that the town was always an exception within an essentially territorial system of power founded and developed on the basis of a territorial domination defined by feudalism. What's more, the town was par excellence the free town. Up to a point, to a certain extent and within some clearly defined limits, it was the town that had the possibility, which had been given the right, to govern itself. But the town also represents a sort of autonomous zone in relation to the major organizations and mechanisms of territorial power typical of a power developed on a feudal basis. I think the integration of the town within central mechanisms of power, or better, the inversion that made the town the primary problem, even before the problem of the territory, is a phenomenon, a reversal, typical of what took place between the seventeenth and the beginning of the eighteenth century. It was a problem to which it really was necessary to respond with new mechanisms of power whose form is no doubt found in what I call mechanisms of security. Basically, the fact of the town and legitimate sovereignty had to be reconciled. How can sovereignty be exercised over the town? It was not that easy and a whole series of transformations were required of which I have obviously only indicated a bare outline.

Second, I would like to note that these three phenomena, or three problems rather – the street, grain, and contagion, or the town, scarcity, and epidemics – share the fact that they all more or less turn on the problem of circulation. I mean, of course, circulation in the very broad sense of movement, exchange, and contact, as form of dispersion, and also as form of distribution, the problem being: How should things circulate or not circulate? We could say that if the traditional problem of sovereignty, and so of political power linked to the form of sovereignty, had in the past always been either that of conquering new territories or holding on to conquered territory, then its problem was in a way: How can it not change, or how can I can advance without it changing? How can the territory be demarcated, fixed, protected, or enlarged? In other words, it involved something that we could call precisely the safety (*sûreté*) of the territory, or the safety (*sûreté*) of the sovereign who rules over the territory. In the end this is Machiavelli's problem in fact. In a given territory, either conquered or inherited[*] – whether the power is legitimate or not is not important – Macchiavelli's problem was precisely how to ensure that the sovereign's power is not endangered, or at any rate, how can it keep at bay, with full certainty, the threats hanging over it. The Prince's problem, the political problem of sovereignty, was, I

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[*] On this distinction, which founds the entire problematic of the "new prince" in Machiavelli, see *The Prince*, ch. 1: "The different kinds of principality and how they are acquired" and ch. 2: "Hereditary principalities."

think, the Prince's safety in the reality of his territorial power. But far from thinking that Machiavelli opens up the field of political thought to modernity, I would say that he marks instead the end of an age, or anyway that he reaches the highest point of a moment in which the problem was actually that of the safety of the Prince and his territory. Now it seems to me that through the obviously very partial phenomena that I have tried to pick out we see the emergence of a completely different problem that is no longer that of fixing and demarcating the territory, but of allowing circulations to take place, of controlling them, sifting the good and the bad, ensuring that things are always in movement, constantly moving around, continually going from one point to another, but in such a way that the inherent dangers of this circulation are cancelled out. No longer the safety (*sûreté*) of the prince and his territory, but the security (*sécurité*) of the population and, consequently, of those who govern it. I think this is another very important change.

These mechanisms share [another,] third characteristic. Whether they are new forms of urban research, ways of preventing or at least controlling food shortages, or ways of preventing epidemics, they all have the following in common: They do not attempt, at least not primarily or in a fundamental way, to make use of a relationship of obedience between a higher will, of the sovereign, and the wills of those subjected to his will. In other words, the mechanism of security does not function on the axis of the sovereign-subjects relationship, ensuring the total and as it were passive obedience of individuals to their sovereign. They are connected to what the physiocrats called physical processes, which could be called natural processes, and which we could also call elements of reality. These mechanisms do not tend to a nullification of phenomena in the form of the prohibition, "you will not do this," nor even, "this will not happen," but in the form of a progressive self-cancellation of phenomena by the phenomena themselves. In a way, they involve the delimitation of phenomena within acceptable limits, rather than the imposition of a law that says no to them. So mechanisms of security are not put to work on the sovereign-subjects axis or in the form of the prohibition.

Finally – and here I think we come to the central point of all this – all these mechanisms, unlike those of law or of discipline, do not tend to convey the exercise of a will over others in the most homogeneous, continuous, and exhaustive way possible. It is a matter rather of revealing a level of the necessary and sufficient action of those who govern. This pertinent level of government action is not the actual totality of the subjects in every single detail, but the population with its specific phenomena and processes. The idea of the panopticon* is a modern idea in one sense, but we can also say that it is completely

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* See below, lecture of 8 February, p. 117.

archaic, since the panoptic mechanism basically involves putting someone in the center– an eye, a gaze, a principle of surveillance – who will be able to make its sovereignty function over all the individuals [placed] within this machine of power. To that extent we can say that the panopticon is the oldest dream of the oldest sovereign: None of my subjects can escape and none of their actions is unknown to me. The central point of the panopticon still functions, as it were, as a perfect sovereign. On the other hand, what we now see is [not] the idea of a power that takes the form of an exhaustive surveillance of individuals so that they are all constantly under the eyes of the sovereign in everything they do, but the set of mechanisms that, for the government and those who govern, attach pertinence to quite specific phenomena that are not exactly individual phenomena, even if individuals do appear in a way, and there are specific processes of individualization (and we will have to come back to this, because it is very important). The relation between the individual and the collective, between the totality of the social body and its elementary fragments, is made to function in a completely different way; it will function differently in what we call population. The government of populations is, I think, completely different from the exercise of sovereignty over the fine grain of individual behaviors. It seems to me that we have two completely different systems of power.

So, I would now like to begin to analyze this. Through the examples of the town, scarcity, and epidemics I have merely tried to grasp some mechanisms, which are new, I think, in this period. Through these examples we can see that what is involved is, on the one hand, a completely different economy of power and, on the other hand – and I would now like to say a few words about this – an absolutely new political personage that I do not think existed previously, that had not been perceived or recognized, as it were, or singled out, and this new personage that makes a remarkable entrance and, what's more, is very quickly noted in the eighteenth century, is the population.

To be sure, this is not the first appearance of the problem and concern with the population, not only in political thought in general, but in the techniques and conduct of government. If we look at the use of the

word "population" in the oldest texts,* we can see that the problem of population was raised, almost continually, for a long time, but in an essentially negative way. What was called the population was basically the contrary of depopulation. That is to say, "population" was understood as the movement by which a deserted territory was repopulated after a great disaster, be it an epidemic, war, or food shortage, after one of these great dramatic moments in which people died with spectacular rapidity and intensity. Let's say that the problem of population was posed in relation to the desert or desertification due to major human catastrophes. Moreover, it is entirely in keeping with this that the famous mortality tables – you know that eighteenth century demography could only begin inasmuch as some countries, and England in particular, had established mortality tables that made a quantification and knowledge of the causes of death possible† – had not always existed, of course, and above all were not always continuous. In England, which was the first country to draw up these mortality tables, in the sixteenth century and still at the start of the seventeenth century I think – I no longer know when things changed – at any rate, throughout the sixteenth century, these mortality tables were only drawn up at the time of the major epidemics when that scourge made mortality so dramatic that there was an interest in knowing how many

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* Foucault is alluding here to the writings of Francis Bacon, credited by a number of dictionaries with the invention of the word "population." See, for example, *Dictionnaire historique de la langue française. Le Robert.* In reality this word cannot be found in Bacon and only appears in some late translations [see end of this note; G.B.]. The first occurrence of the English word seems to go back to the *Political Discourses* (1751) of David Hume, and the French term, only began to circulate in the second half of the eighteenth century. Montesquieu was still unaware of it in 1748. He speaks of the "number of men" in *De l'esprit des lois*, Book XVIII, ch. 10, in *Œuvres complètes* (Paris: Gallimard, "Bibliothèque de la Plèiade," 1958) vol. 2, p. 536; English translation by Anne Cohler, Basia Miller, Harold Stone, *The Spirit of The Laws* (Cambridge: Cambridge University Press, 1989) p. 290, or of inhabitants, of "propagation of the species" (ibid. Book XXIII, ch. 26) p. 710 and p. 711; trans., ibid. p. 453. See *Lettres persanes* (1721), CXXII, ibid. p. 313; English translation by C. J. Betts, *Persian Letters* (Harmondsworth: Penguin, 1973) Letter 120, p. 219. On the other hand, from *Persian Letters* he uses the negative form of the word, "depopulation" (Letter CXVII, ibid. p.305; trans., ibid. Letter 117, p. 211); *De l'esprit des lois,* XXIII, ch. 19, p. 695, and ch. 28, p. 711; *The Spirit of the Laws*, pp. 439-440 and p. 454. The use of the word goes back to the fourteenth century (see Littré, *Dictionnaire de la langue française* [Paris: J.-J. Pauvert, 1956] vol. 2, p. 1645) in the active sense of the verb "se dépeupler." Absent from the first edition of Herbert's *Essai sur la police générale des grains* in 1753, "population" appears in the 1755 edition. For a recent clarification of the question, see H. Le Bras, his preface to H. Le Bras, ed., *L'Invention des populations* (Paris: Odile Jacob, 2000), and I. Tamba, "Histoires de démographe et de linguiste: le couple population/dépopulation," *Linx*, Paris X, 47, 2002, pp. 1-6. [It is not true that the word 'population' cannot be found in Bacon. The word appears in his *Essays*, and precisely in the essay discussed by Foucault in some detail in the lecture of 15 March 1978, "Of Seditions and Troubles." G.B.]

† On John Graunt, see below, note 28.

people were dying, where they died, and of what cause.[*] In other words, the question of the population was not at all grasped in its positivity and generality. The question of knowing what the population is and how one could repopulate arose in relation to dramatic mortality.

Nor does the positive value of the notion of population date from the middle of the eighteenth century to which I have been referring until now. We only need to read the texts of chroniclers, historians, and travelers to see that the population always figures in their descriptions as one of the factors or elements of a sovereign's strength. For a sovereign to be powerful he had, of course, to rule over an extensive territory. The importance of his finances were also measured, estimated, or calculated. So, size of territory, the importance of finances, and also population, which figured under three aspects moreover: A large population, a population that could thus appear on the blazon of a sovereign's power, made its presence felt by the fact that it provided many troops, that the towns were populated, and that the markets were busy. This large population could only be a characteristic feature of the sovereign's power on two supplementary conditions that, on the one hand, it is obedient, and, on the other, it is animated by zeal, by a taste for work, and by activity, which enable the sovereign to be really strong, that it is to say, obeyed, on the one hand, and rich on the other. All of this belongs to the most traditional way of conceiving the population.

Things begin to change in the seventeenth century, at the time distinguished by cameralism[†] and mercantilism,[‡] not so much as economic doctrines as a new way of posing the problems of government. Maybe we will come back to this. Anyway, for the mercantilists of the seventeenth century, the population was no longer simply a positive feature that allowed it to appear in the emblems of the sovereign's power, but appeared within a dynamic, or rather, not within, but as the very source of a dynamic, and of the dynamic of the strength of the state and

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[*] See E. Vilquin, Introduction to J. Graunt, *Observations naturelles ou politiques répertoriés dans l'Index ci-après et faites sur les bulletins de mortalité de John Graunt citoyen de Londres, en rapport avec le gouvernement, la religion, le commerce, l'accroissement, l'atmosphère, les maladies et les divers changements de ladite cité*, trans. E. Vilquin (Paris: INED, 1977) pp. 18-19: "The bills of mortality of London are among the first published demographic statements, but their origin is not well known. The earliest bill that has been discovered responds to a question on 21 October 1532 from the Royal Council to the Mayor of London concerning the number of deaths due to the plague (...). In 1532 and 1533 there were series of weekly bills indicating for every parish the total number of deaths and the number due to the plague. Obviously, the only reason for these bills was to give the London authorities an idea of the extent and development of the plague and therefore appear and disappear with it. The plague of 1563 gave rise to a long series of bills from 12 June 1563 to 26 July 1566. There was another series in 1754, another, continuous series, from 1578 to 1583, then from 1592 to 1595, and from 1597 to 1600. It is not impossible that the regularity of weekly bills goes back to 1563, it is only certain from 1603."

[†] See above, lecture of 11 January, note 25.

[‡] Ibid.

sovereign. The population is a fundamental element, that is to say one that conditions all the others. Why does it condition the other elements? Because the population provides manpower for agriculture, that is to say, it guarantees abundant harvests, since there will be many cultivators, extensive cultivated land, abundant harvests, and so a low price of grain and agricultural products. It also provides manpower for manufacture, that is to say, as far as it is possible, it enables one to do without imports and everything for which one has to pay foreign countries with good currency, in gold or silver. [Finally], the population is a fundamental component of the state's power because it ensures competition within the possible workforce within the state, which of course ensures low wages. Low wages mean low prices of products and the possibility of export, and hence a new guarantee, a new source of the state's strength.

The population can only be the basis of the state's wealth and power in this way on condition, of course, that it is framed by a regulatory apparatus (*appareil*) that prevents emigration, calls for immigrants, and promotes the birth rate, a regulatory apparatus that also defines useful and exportable products, fixes the objects to be produced, the means of their production, as well as wages, and which prevents idleness and vagrancy. In short, it requires an apparatus that will ensure that the population, which is seen as the source and the root, as it were, of the state's power and wealth, will work properly, in the right place, and on the right objects. In other words, mercantilism was concerned with the population as a productive force, in the strict sense of the term, and I do not think it is in the eighteenth century, after the mercantilists, nor, obviously, in the nineteenth century, that the population is seen as essentially and fundamentally a productive force. It was the mercantilists, or the cameralists, who basically saw the population in this way, on condition, of course, that it is effectively trained, divided up, distributed, and fixed by disciplinary mechanisms. The population as the source of wealth, as a productive force, and disciplinary supervision are all of a piece within the thought, project, and political practice of the mercantilists.

It seems to me that from the eighteenth century, in the years I have been taking as my reference point, things change. It is usually said that, in contrast to the mercantilists of the earlier period, the physiocrats were anti-populationist.* That is to say, whereas the mercantilists thought that

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* On this question, see G. Weulersse, *Le Mouvement physiocratique*, vol. 2, Book V, ch. 1, pp. 268-295: "Discussion des principes du populationnisme," and, *Les Physiocratees*, pp. 251-254; Joseph J. Spengler, *French Predecessors of Malthus. A Study in Eighteenth-Century Wage and Population Theory* (Durham, North Carolina: Duke University Press, 1942), pp. 170-211; A. Landry, "Les idées de Quesnay sur la population," *Revue d'Histoire des doctrines économiques et sociales*, 1909, republished in *F. Quesnay et la physiocratie*, vol. 1, pp. 11-49; J.-Cl. Perrot, *Une histoire intellectuelle de l'économie politique*, pp. 143-192: "Les économistes, les philosophes et la population."

population should be increased as much as possible because it was the source of wealth and power, the physiocrats are said to have adopted a much more qualified position. In actual fact, I do not think that the difference hangs on the value or lack of value of expanding the population. I think the physiocrats are distinct from the mercantilists, or from the cameralists, because they consider population in a different way.* Because when the mercantilists and cameralists talk about population as, on the one hand, the source of wealth, and, on the other, as having to be framed by a regulatory system, they basically still only see it as the collection of a sovereign's subjects on which a number of laws and regulations can be imposed from above in an entirely voluntarist manner telling it what it must do, and where and how it must do it. In other words, the mercantilists considered the problem of population essentially in terms of the axis of sovereign and subjects. The mercantilist, cameralist, or, if you like, Colbertian project was situated within the relationship of the sovereign's will to the subjected will of the people, in relation to subjects of right, subjects subject to a law, subjects who can be framed by regulations. Now with the physiocrats and, more generally, with the eighteenth century economists, I think the population no longer appears as a collection of subjects of right, as a collection of subject wills who must obey the sovereign's will through the intermediary of regulations, laws, edicts, and so on. It will be considered as a set of processes to be managed at the level and on the basis of what is natural in these processes.

But what does this "naturalness"† of the population signify? What is it that means that the population will henceforth be seen, not from the standpoint of the juridical-political notion of subject, but as a sort of technical-political object of management and government? What is this naturalness? To put it very briefly, I think it appears in three ways. First, as problematised in thought, but [also] in eighteenth century

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* The essential position of the physiocrats on the subject consists in the introduction of wealth as mediating between population and subsistence. See Quesnay's article, "Hommes," in *F. Quesnay et la physiocratie*, vol. 2, p. 549: "One would like to increase the population in the countryside, and one does not know that the increase of population depends beforehand on the increase of wealth." See G. Weulersse, *Les Physiocrates*, pp. 252-253: "It is not that they were indifferent to the increase of population: because men contribute to the enrichment of the State in two ways, as producers and consumers. But they will only be useful producers if they produce more than they consume, that is to say if their work is accomplished with the assistance of the necessary capitals; and their consumption, similarly, will only be advantageous if they pay a good price for the commodities on which they live, that is to say equal to what foreign purchasers would pay for them: otherwise, a strong national population, far from being a resource, becomes a burden. But you begin by increasing the revenues of the land: men, called to life as it were by the abundance of wages, will multiply proportionately by themselves; this is the true populationism, but indirect of course." There is an excellent clarification also in J.J. Spengler, *French Predecessors of Malthus*, pp. 172-175. On the analysis of the role of population in the physiocrats and economists, see M. Foucault, *Histoire de la folie*, pp. 429-430; *Madness and Civilization*, pp. 231-232.

† naturalness: in inverted commas in the manuscript, p. 13.

governmental practice, the population is not the simple sum of individuals inhabiting a territory. Nor is it solely the result of their will to reproduce. Nor is it the vis-à-vis of a sovereign will that may encourage or shape it. In fact, the population is not a primary datum; it is dependant on a series of variables. Population varies with the climate. It varies with the material surroundings. It varies with the intensity of commerce and activity in the circulation of wealth. Obviously it varies according to the laws to which it is subjected, like tax or marriage laws for example. It also varies with people's customs, like the way in which daughters are given a dowry, for example, or the way in which the right of primogeniture is ensured, with birthright, and also with the way in which children are raised, and whether or not they are entrusted to wet nurses. Population varies with the moral or religious values associated with different kinds of conduct; the ethical-religious value, for example, of the celibacy of priests and monks. Above all, of course, it varies with the condition of means of subsistence, and here we encounter Mirabeau's famous aphorism that population will never vary beyond and cannot in any circumstance exceed the limits fixed by the quantity of means of subsistence.[*] These analyses, by Mirabeau, by the abbot Pierre Jaubert,[†] or by Quesnay in the article "Hommes" in the *Encylopédie*,[‡] all show that it is obvious to this way of thinking that the population is not that kind of original datum, that kind of material on which the sovereign's action is to be exercised, that vis-à-vis of the sovereign. The population is a datum that depends on a series of variables, which means that it cannot be transparent to the sovereign's action and that the relation

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[*] See Victor Riquet[t]i, Marquis de Mirabeau (1715-1789), known as Mirabeau the Elder, *L'Ami des hommes, ou Traité de la population*, published under the authors name (Avignon: 1756) 3 vols. See, L. Brocard, *Les Doctrines économiques et sociales du marquis de Mirabeau dans l'"Ami des hommes"* (Paris: Giard et Brière, 1902). Mirabeau's aphorism, taken from *L'Ami des Hommes* – "the measure of subsistence is that of the population" (vol. 1, p. 37) – finds its counterpart in the work of A. Goudart, *Les Intérêts de la France mal entendues, dans les branches de l'agriculture, de la population, des finances* ... published the same year (Amsterdam: Jacques Cœur, 1756) 3 vols: "The number of men always depends upon the general degree of subsistence" and is taken up, even in its formulation in imagery (men will multiply "like mice in a barn if they have unlimited means of subsistence") in Richard Cantillon, *Essai sur la nature du commerce en général* (London: Fletcher Gyles, 1755; facsimile re-publication, Paris: INED, 1952 and 1997) ch. 15, p. 47.

[†] Abbé Pierre Jaubert, *Des causes de la dépopulation et des moyens d'y remédier*, published under the author's name (London-Paris: Dessain junior, 1767).

[‡] This article, written for the *Encylopédie*, the publication of which was prohibited in 1757 and only taken up again in 1765, remained unpublished until 1908 (*Revue d'histoire des doctrines économiques et sociales*, 1). It is republished in *François Quesnay et la physiocratie*, vol. 2, in *Œuvres*, pp. 511-575. It was however partially recopied and distributed by Henry Patullo in his *Essai sur l'amelioration des terres* (Paris: Durand, 1758). See J.-Cl. Perrot, *Une histoire intellectuelle de l'économie politique*, p. 166. Quesnay's article was replaced in the *Encylopédie* by Diderot's article "Hommes" (Politics) and Damilaville's, "Population." The manuscript of the article, deposited in the Bibliothèque Nationale, was only rediscovered in 1889. This is why it was not reproduced in E. Daire's collection, *Les Physiocrates* (Paris: Guillaumin, 1846). See L. Salleron, in *F. Quesnay et la physiocratie*, vol. 2, p. 511, note 1.

between the population and sovereign cannot simply be one of obedience or the refusal of obedience, of obedience or revolt. In fact, the variables on which population depends are such that to a very considerable extent it escapes the sovereign's voluntarist and direct action in the form of the law. If one says to a population "do this," there is not only no guarantee that it will do it, but also there is quite simply no guarantee that it can do it. If we restrict ourselves to the sovereign-subject relationship, the limit of the law is the subject's disobedience; it is the "no" with which the subject opposes the sovereign. But when it is a question of the relationship between government and population, then the limit of the sovereign's or government's decision is by no means necessarily the refusal of the people to whom the decision is addressed.

The population appears therefore as a kind of thick natural phenomenon in relation to the sovereign's legalistic voluntarism. To say that population is a natural phenomenon that cannot be changed by decree does not mean, however, that it is an inaccessible and impenetrable nature, quite the contrary. And this is where the analysis of the physiocrats and economists becomes interesting, in that the naturalness identified in the fact of population is constantly accessible to agents and techniques of transformation, on condition that these agents and techniques are at once enlightened, reflected, analytical, calculated, and calculating. Not only must voluntary changes in the law be considered if the laws are unfavorable to the population, but above all, if one wants to encourage population, or achieve the right relationship between the population and the state's resources and possibilities, then one must act on a range of factors and elements that seem far removed from the population itself and its immediate behavior, fecundity, and desire to reproduce. For example, one must act on the currency flows that irrigate the country, knowing their directions and whether they really reach all the elements of the population or leave some regions inert. One will have to act on exports: the greater the demand for exports, the greater the possibility of work, of course, and so of wealth, and so of population. The problem of imports arises: Do imports encourage or discourage population? If one imports, one takes jobs from people here, but one also gives them food. So there is the problem of the regulation of imports, which was crucial in the eighteenth century. In any case, it is possible to act effectively on the population through the interplay of all these remote factors. So you can see that a completely different technique is emerging that is not getting subjects to obey the sovereign's will, but having a hold on things that seem far removed from the population, but which, through calculation, analysis, and reflection, one knows can really have an effect on it. I think a very important mutation in the organization and

rationalization of methods of power takes place with reference to this penetrable naturalness of population.

We could also say that the naturalness of the population appears in a second way in the fact that this population is of course made up of individuals who are quite different from each other and whose behavior, within a certain limit at least, cannot be accurately predicted. Nevertheless, according to the first theorists of population in the eighteenth century, there is at least one invariant that means that the population taken as a whole has one and only one mainspring of action. This is desire. Desire is an old notion that first appeared and was employed in spiritual direction (to which, possibly, we may be able to return),* and it makes its second appearance within techniques of power and government. Every individual acts out of desire. One can do nothing against desire. As Quesnay says: You cannot stop people from living where they think they will profit most and where they desire to live, because they desire that profit. Do not try to change them; things will not change.† However – and it is here that this naturalness of desire thus marks the population and becomes accessible to governmental technique – for reasons to which we will have to come back and which are one of the important theoretical elements of the whole system, this desire is such that, if one gives it free play, and on condition that it is given free play, all things considered, within a certain limit and thanks to a number of relationships and connections, it will produce the general interest of the population. Desire is the pursuit of the individual's interest. In his desire the individual may well be deceived regarding his personal interest, but there is something that does not deceive, which is that the spontaneous, or at any rate both spontaneous and regulated play of desire will in fact allow the production of an interest, of something favorable for the population. The production of the collective interest through the play of desire is what distinguishes both the naturalness of population and the possible artificiality of the means one adopts to manage it.

This is important because you can see that with this idea of a management of populations on the basis of the naturalness of their desire, and of the spontaneous production of the collective interest by desire, we have something that is completely the opposite of the old ethical-juridical conception of government and the exercise of sovereignty. For what was the sovereign for the jurists, for medieval jurists but also for the theorists of natural law, for Hobbes as well as for Rousseau? The sovereign is the

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* Foucault is alluding here to a question he discussed in the 1975 Collège de France lectures, *Les anormaux; Abnormal*. See below, lecture of 22 February, note 43.

† See the article "Hommes," p. 537: "Men gather together and multiply wherever they can acquire wealth, live comfortably, possess securely and as owners the wealth that their work and their industry can procure them."

person who can say no to any individual's desire, the problem being how to legitimize this "no" opposed to individuals' desire and found it on the will of these same individuals. Now through the economic-political thought of the physiocrats we see a completely different idea taking shape, which is that the problem of those who govern must absolutely not be how they can say no, up to what point they can say no, and with what legitimacy they can say no. The problem is how they can say yes; it is how to say yes to this desire. The problem is not therefore the limit of concupiscence or the limit of self-esteem in the sense of love of oneself, but concerns rather everything that stimulates and encourages this self-esteem, this desire, so that it can produce its necessary beneficial effects. We have here therefore the matrix of an entire, let's say, utilitarian philosophy.[*] And just as I think that Condillac's Ideology,[†] or, in short, what has been called sensualism, was the theoretical instrument by which the practice of discipline could be underpinned,[‡] I would say that utilitarian philosophy was the theoretical instrument that underpinned the government of populations, which was something new at this time.[§]

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[*] On this notion see *Naissance de la biopolitique*, lecture of 17 January 1979, p. 42 (utilitarianism as "technology of government").

[†] Étienne Bonnot de Condillac (1715-1780), author of *Essai sur l'origine des connaissances humaines* (Paris: P. Mortier, 1746); English translation by Hans Aarsleff, *Essay on the Origin of Human Knowledge*, ed. Hans Aarsleff (Cambridge: Cambridge University Press, 2001), of the *Traité des sensations* (Paris: De Bure, 1754); English translation by Geraldine Carr, *Condillac's Treatise on the Sensations* (London: Favil Press, 1930), and *Traité des animaux* (Paris: De Bure, 1755). In the *Traité des sensations* he maintains that there is no operation of the soul that is not a transformed sensation – hence the name of sensualism given to his doctrine – and that any sensation, whatever it is, suffices to engender all the faculties, imagining, in defense of his thesis, a statue on which he separately and successively confers the five senses. Ideology designates the philosophical movement deriving from Condillac, which begins in 1795 with the creation of the Institute (of which the Academy of moral and political sciences, to which the followers of Condillac belonged, was part). The main representative of this school was Destutt de Tracy (1754-1836), author of *Élements d'idéologie*, 4 vols. (Paris: Courcier, 1804-1815). Foucault, who devoted several pages to the *Idéologues* in *Les Mots et les Choses* (Paris: Gallimard, "Bibliothèque des sciences humaines," 1966) ch. VII, pp. 253-255; English translation by A. Sheridan, *The Order of Things* (London: Tavistock and New York: Pantheon, 1970) ch. 7, pp. 240-243, already connected Condillac's genetic conception with Bentham's panoptic apparatus in his 1973-1974 lectures, *Le Pouvoir psychiatrique*, ed. J. Lagrange (Paris: Gallimard-Le Seuil, "Hautes Études," 2003), lecture of 28 November 1973, p. 80; English translation by Graham Burchell, *Psychiatric Power. Lectures at the Collège de France 1973-1974*, English series ed. Arnold Davidson (New York: Palgrave Macmillan, 2006) p. 78. On Condillac, see also *Les Mots et les Choses*, ch. III, pp. 74-77; *The Order of Things*, pp. 60-63.

[‡] See *Surveiller et Punir*, p. 105; *Discipline and Punish*, p. 102: "[The discourse of the *Idéologues*] provided, in effect, by means of the theory of interests, representations and signs, by the series and geneses that it reconstituted, a sort of general recipe for the exercise of power over men: the 'mind' as a surface of inscription for power, with semiology as its tool; the submission of bodies through the central control of ideas; the analysis of representations as a principle in a politics of bodies that was much more effective than the ritual anatomy of torture and execution. The thought of the *Idéologues* was not only a theory of the individual and society; it developed as a technology of subtle, effective, economic powers, in opposition to the sumptuous expenditure of the power of the sovereign."

[§] Manuscript, p. 17: "What is also important is that "utilitarian philosophy" is to the government of populations a bit what Ideology was to the disciplines."

Finally, the naturalness of the population, which appears in this universal benefit of desire, and also in the fact that the population is always dependent upon complex and modifiable variables, appears again in a third way. It appears in the constancy of phenomena that one might expect to be variable since they depend on accidents, chance, individual conduct, and conjunctural causes. Now it is enough to observe these phenomena that should be irregular, it is enough to look at them and count them, to realize that in actual fact they are regular. This was the great discovery of the Englishman Graunt[*] at the end of the seventeenth century, who, precisely with reference to mortality tables, not only managed to establish that there was a constant number of deaths every year in a town, but also that there was a constant proportion of different accidents, however varied, that produce this death. The same proportion of people die from consumption, the same proportion from fevers, or from the kidney stone, gout, or jaundice.[†] What clearly astonished Graunt is that in the London mortality tables the proportion of suicides is exactly the same from one year to the next.[‡] We also see other regular phenomena such as, for example, a higher birth rate for males, but boys suffering from more accidents of varied kinds than girls, so that

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[*] John Graunt (1620-1674), *Natural and Political Observations Mentioned in Following Index, and Made upon the Bills of Mortality. With reference to the Government, Religion, Trade, Growth, Ayre, Disease, and the Several Changes of the Said City* (London: John Martin, 1662, 5th edition 1676) republished in *The Economic Writings of Sir William Petty*, ed. C.H. Hull (Cambridge: Cambridge University Press, 1899) vol. 2; French translation by H. Dussauze and M. Pasquier, *Œuvres économiques de Sir William Petty*, (Paris: Giard et Brière, 1905) vol. 2, pp. 351-467; new translation by E. Vilquin, J. Graunt, *Observations naturelles ou politiques* (see above note 15). An autodidact, a master draper by trade, and a friend of William Petty, Graunt had the idea of drawing up chronological tables on the basis of bills of mortality published on the occasion of the great plague that decimated London in the seventeenth century. This text is seen as the starting point of modern demography. See P. Lazersfeld, *Philosophie des sciences sociales* (Paris: Gallimard, "Bibliothèque des sciences humaines" 1970) pp. 79-80 : "(...) the first mortality tables, published in 1662 by John Graunt who is considered to be the founder of modern demography." The attribution of the *Natural and Political Observations* to Graunt was challenged, however, in the seventeenth century in favor of Petty. See H. Le Bras, *Naissance de la mortalité*, p. 9, for whom "the balance swings clearly against Graunt's paternity and in favor of that of Petty." The counter thesis is defended by P. Kraeger, "New light on Graunt," *Population Studies*, 42 (1), March 1988, pp. 129-140.

[†] J. Graunt, *Natural and Political Observations* ch. 2, § 19, in Petty, *Economic Writings*, vol. 2, p. 352: "...among the several *Casualties* some bear a constant proportion unto the whole number of *Burials*; such are *Chronical* Diseases, and the Diseases whereunto the City is most subject; as for Example, *Consumptions, Dropsies, Jaundice, Gout, Stone, Palsie, Scurvy, Rising of the Lights* or *Mother, Rickets, Aged, Agues, Fevers, Bloody Flux* and *Scowring.*"

[‡] Ibid. "nay, some Accidents, as *Grief, Drowning, Men's making away themselves,* and being *Kill'd by several Accidents etc.* do the like." On the probability of suicide, see ch. 3, § 13, p. 355.

proportion is re-established after a certain time.*   Child mortality is always greater than adult mortality for both boys and girls.†   Mortality is always higher in the town than in the country,‡   and so on. We have then a third surface of emergence for the naturalness of the population.

The population is not, then, a collection of juridical subjects in an individual or collective relationship with a sovereign will. It is a set of elements in which we can note constants and regularities even in accidents, in which we can identify the universal of desire regularly producing the benefit of all, and with regard to which we can identify a number of modifiable variables on which it depends. Taking the effects specific to population into consideration, making them pertinent if you like, is, I think, a very important phenomenon: the entry of a "nature"§ into the field of techniques of power, of a nature that is not something on which, above which, or against which the sovereign must impose just laws. There is not nature and then, above nature and against it, the sovereign and the relationship of obedience that is owed to him. We have a population whose nature is such that the sovereign must deploy reflected procedures of government within this nature, with the help of it, and with regard to it. In other words, with the population we have something completely different from a collection of subjects of right differentiated by their status, localization, goods, responsibilities, and offices: [We have]** a set of elements that, on one side, are immersed within the general regime of living beings and that, on another side, offer a surface on which authoritarian, but reflected and calculated transformations can get a hold. The dimension in which the population is immersed amongst the other living beings appears and is sanctioned when, for the first time, men are no longer called "mankind (*le genre*

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* Ibid. ch. 8, § 4, p. 375: "We have hitherto said, There are more *Males* than *Females* [see § 1 of same chapter]; we say next, That the one exceed the other by about a thirteenth part. So that although more Men die violent deaths than Women, that is, more are *slain* in *Wars, killed* by *Mischance, drowned* at *Sea,* and die by the *Hand of Justice;* moreover, more Men go to the *Colonies*, and travel into Foreign parts, than Women; and lastly, more remain unmarried than of Women, as *Fellows* of *Colleges,* and *Apprentices* above eighteen, *etc.* and yet the said thirteenth part difference bringeth the business to such a pass, that every Women may have an Husband, without the allowance of *Polygamy.*"

† Ibid. ch. 11, § 9, p. 386: "Whereas we have found, [see ch. 2, § 12-13, p. 349] that of 100 quick Conceptions, about 36 of them die before they be six years old, and that perhaps but one surviveth 76" (there follows what a number of commentators improperly call Graunt's "mortality table").

‡ Ibid. ch. 12, § 12, p. 393: "although Men die more regularly, and less *per saltum* in London, than in the Country, yet, upon the whole matter, there die fewer *per rata*; so as the Fumes, Steams, and Stenches above-mentioned, although they make the air of *London* more equal, yet not more *Healthful*." Foucault's allusion to Durkheim here is obvious. On the interest of nineteenth century sociology in suicide, see *La Volonté de savoir*, p. 182; *The History of Sexuality, vol. 1: An Introduction*, p.139: "This determination to die, strange and yet so persistent and constant in its manifestations, and consequently so difficult to explain as being to particular circumstances or individual accidents (...)"

§ nature: in inverted commas in the manuscript, p. 18.

** M.F.: but

humaine)" and begin to be called "the human species (*l'espèce humaine*)."* With the emergence of mankind as a species, within a field of the definition of all living species, we can say that man appears in the first form of his integration within biology. From one direction, then, population is the human species, and from another it is what will be called the public. Here again, the word is not new, but its usage is.† The public, which is a crucial notion in the eighteenth century, is the population seen under the aspect of its opinions, ways of doing things, forms of behavior, customs, fears, prejudices, and requirements; it is what one gets a hold on through education, campaigns, and convictions. The population is therefore everything that extends from biological rootedness through the species up to the surface that gives one a hold provided by the public. From the species to the public; we have here a whole field of new realities in the sense that they are the pertinent elements for mechanisms of power, the pertinent space within which and regarding which one must act.

We could add something else. While I have been speaking about population a word has constantly recurred – you will say that this was deliberate, but it may not be entirely so – and this is the word "government." The more I have spoken about population, the more I have stopped saying "sovereign." I was led to designate or aim at something that again I think is relatively new, not in the word, and not at

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* "The species, systematic unity, as for a long time the naturalists understood it, was defined for the first time by John Ray [in his *Historia planarum* (London: Faithorne)] in 1686 [a "set of individuals who, through reproduction, engender other individuals similar to themselves"]. Previously, the word was employed with very varied meanings. For Aristotle it designated small groups. Later it was confused with that of genus (*genre*)." E. Guyénot, *Les Sciences de la vie aux XVII*ᵉ *et XVIII*ᵉ. *L'idée d'évolution* (Paris: Albin Michel, "L'Évolution de l'humanité," 1941) p. 360. In 1758, in the 10th edition of his *Systema naturae*, Linneaus includes the genus *Homme* in the order of *Primates*, distinguishing two species: *Homo sapiens* and *Homo troglodytes* (in *Systema Naturae per Regna Tria Naturae*, 12th edition, vol. 1, [Stockholm: Salvius, 1766] p. 28 *sq*). On the birth of the concept of species in the seventeenth century, see also François Jacob, *La Logique du vivant* (Paris: Gallimard, "Bibliothèque des sciences humaines," 1970) pp. 61-63; English translation by Betty E. Spillman, *The Logic of Living Systems* (London: Allen Lane, 1974) pp. 50-52. The expression "human species" is a current expression in the eighteenth century. It is frequently found in Voltaire, Rousseau, and d'Holbach. See, for example, George Louis de Buffon (1707-1788), *Des époques de la nature* (Paris: Imprimerie royale, 1778) pp. 187-188: "(...) man is actually the great and final effect of creation. It will be said that the analogy seems to demonstrate that the human species has followed the same steps and that it dates from the same time as the other species, that it is even more universally distributed; and that if the period of its creation is later than that of the animals, nothing proves that man has not at least been subjected to the same laws of nature, the same alterations, and the same changes. We will acknowledge that the human species does not differ fundamentally for other species in its physical faculties, and that in this respect its fate has been more or less the same as that of the other species; but can we doubt that we differ prodigiously from the animals by the sovereign being's divine light?"

† In the new usage of the word "public," see the fundamental work of J. Habermas, *Strukturwandel der Öffentlichkeit* (Neuwied-Berlin: H. Luchterhand, 1962) the French translation of which, by M. de Launay, *L'Espace public. Archéologie de la publicité comme dimension constitutive de la société bourgeoise* appeared in 1978 (Paris: Payot); English translation by Thomas Burger and Patrick Lawrence, *The Structural Transformation of the Public Sphere: Inquiry into a Category of Bourgeois Society* (Cambridge, Mass.: MIT Press, 1989). Foucault returns at greater length to the question of the public at the end of lecture of 15 March.

a certain level of reality, but as a new technique. Or rather, the modern political problem, the privilege that government begins to exercise in relation to rules, to the extent that, to limit the king's power, it will be possible one day to say, "the king reigns, but he does not govern,"* this inversion of government and the reign or rule and the fact that government is basically much more than sovereignty, much more than reigning or ruling, much more than the *imperium*, is, I think, absolutely linked to the population. I think that the series, mechanisms of security – population – government and the opening up of the field that we call politics, should be analyzed.

I would like to take five more minutes to add something, and maybe you will see why. It is a bit marginal to all of this.† So there is the emergence of this absolutely new thing, the population, with the mass of juridical, political, and technical problems that it gives rise to. Now, if we take a completely different series of domains, [those] we could call domains of knowledge (*savoirs*), we see – and I am not putting forward a solution here, but a problem – that this same problem of population appears in a whole series of knowledges.

More precisely, let us take the case of political economy. Basically, for those who were concerned with finances – since in the seventeenth century it was still a question of this – insofar as it was a question of quantifying wealth, measuring its circulation, determining the role of currency, and knowing whether it was better to devalue or revalue a currency, insofar as it was a question of establishing or supporting the flows of external commerce, I think "economic analysis"‡ remained at the level of the analysis of wealth.§ On the other hand, when it became possible not only to introduce population into the field of economic theory, but also into economic practice, when it became possible to introduce into the analysis of wealth this new subject, this new subject-object, with its demographic aspects, but also with the aspect of the specific role of producers and consumers, owners and non-owners, those who create profit and those who take it, when the entry of this subject-

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* The famous phrase of Thiers in an article in the *National*, 4 February 1830.

† In the light of the phenomenon of population, Foucault puts the three large epistemic domains studied in *The Order of Things* in a different perspective: the transition from the analysis of wealth to political economy, from natural history to biology, and from general grammar to historical philology, while noting that this is not a "solution," but a "problem" to be investigated more deeply. For a first "genealogical" summary of these three fields of knowledge, on the basis of the tactical generalization of historical knowledge at the end of the eighteenth century, see, *"Il faut défendre la société,"* lecture of 3 March 1976, p. 170; "*Society must be defended,*" p. 190.

‡ Foucault adds: in inverted commas.

§ See, *Les Mots et les Choses*, ch. VI: "Échanger," pp. 177-185 (1. L'analyse des richesses, II. Monnaie et prix); *The Order of Things*, ch. 6: "Exchanging": 1. The analysis of wealth, and 2, Money and prices, pp. 166-174.

object, of population, became possible within the analysis of wealth, with all its disruptive effects in the field of economic reflection and practice, then I think the result was that one ceased analyzing wealth and a new domain of knowledge, political economy, was opened up. After all, one of the Quesnay's fundamental texts is in fact the article "Hommes" in the *Encyclopédie*,* and throughout his work Quesnay never stopped saying that real economic government was government that concerned itself with the population.† But then, the well-known opposition between Malthus and Marx‡ would be proof that in the nineteenth century the problem of population is still really central in all political economic thought. After all, on a Ricardian basis§ that is absolutely common to them both, what is the source of their disagreement? For Malthus, the problem of population basically has to be thought as a bio-economic problem, whereas Marx tried to circumvent the problem and to get rid of the very notion of population, but only to rediscover it in the no longer bio-economic form, but in the specifically historical-political form of class, of class confrontation and class struggle. That is the source of their disagreement: either population or classes, that is where the split occurs, on the basis of an economic thought, a political economic thought, that was only possible as such with the introduction of the subject-population.

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* See above, note 22.

† See Quesnay's article, "Hommes," p. 512: "The condition of the population and the employment of men are (...) the main objects of the economic government of states; for the fertility of the land, the monetary value of products, and the good use of financial wealth are the result of the work and industry of men. Here are the four sources plenty: they mutually contribute to the increase of each other; but it can only be sustained by the operation of the general administration of men, possessions, and products (...)." On economic government, see, for example, *Despotisme de la Chine* (1767), ch. 8, in *F. Quesnay et la physiocratie*, vol. 2, p. 923: "The economic government of the cultivation of the land is an example of the general government of the nation." According to C. Larrère, who quotes this passage in his *L'Invention de l'économie au XVIIIᵉ siècle* (Paris: PUF, "Léviathan," 1992), p. 194, it is therefore around government that the unity of doctrine takes shape in which one must be able to find "those laws and conditions that must govern the general administration of the government of society" (*Despotisme de la Chine*). See A. Landry, "Les idées de Quesnay," above note 18, and below, lecture of 1 February, note 23.

‡ See the texts collected in K. Marx and F. Engels, *Critique de Malthus*, ed., R. Dangeville and others (Paris: Maspero, 1978); see K. Marx and F. Engels, *Marx and Engels on Malthus*, ed. R. L. Meek, trans. D. L. Meek and R. L. Meek (London: Lawrence and Wishart, 1953).

§ David Ricardo (1772-1823), British economist and author of *On the Principles of Political Economy and Taxation* (London: J. Murray, 1817). From 1809 he formed a friendship with Malthus that did not affect their theoretical disagreements. On the relationship between Malthus and Ricardo, see, *Les Mots et les Choses*, p. 269; *The Order of Things*, pp. 256-257: "What makes economics possible, and necessary, then, [for Ricardo] is a perpetual and fundamental situation of scarcity: confronted by a nature that in itself is inert and, save f or one very small part, barren, man risks his life. It is no longer in the interplay of representation that economics finds its principle, but near that perilous region where life is in confrontation with death. And thus economics refers us to that order of somewhat ambiguous considerations which may be termed anthropological: it is related, in fact, to the biological properties of a human species, which, as Malthus showed in the same period as Ricardo, tends always to increase unless prevented by some remedy or constraint (...)."

Consider now the case of natural history and biology. Basically, as you know, the essential role and function of natural history was to determine the classificatory characteristics of living beings that would enable them to be distributed to this or that case of the table.* In the eighteenth and the beginning of the nineteenth century, a whole series of transformations take place that take us from the identification of classificatory characteristics to the internal organization of the organism,† and then from the organism in its anatomical-functional coherence to the constitutive or regulatory relationships with the milieu in which it lives. Roughly speaking, this is the Lamarck-Cuvier problem,‡ to which Cuvier provides the solution, in which the principles of rationality are found in Cuvier.§ Finally, in the transition from Cuvier to Darwin,** from the milieu of life, in its constitutive relationship to the organism, we pass to the population that Darwin succeeded in showing was, in fact, the element through which the milieu produces its effects on the organism. To think about the relationships between the milieu and the organism, Lamarck resorted to something like the idea of the organism being acted on directly and shaped by the milieu. Cuvier resorted to what appear to be more mythological things – like catastrophes, God's creative acts, and so on – but which actually organized the field of rationality

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* See, *Les Mots et les Choses*, ch. V: "Classer," pp. 140-144 (II. L'histoire naturelle) and pp. 150-158 (IV. Le caractère); *The Order of Things*, ch. 5: "Classifying": II. Natural history, pp. 128-132, and IV. Character, pp. 138-145.

† Ibid. ch. VII: "Les limites de la représentation," pp. 238-245 (III. L'organisation des êtres); trans. ibid. ch. 7: "The limits of representation": III. The organic structure of beings, pp. 226-232, especially the pages devoted to Larmack, who is credited with having "brought the era of natural history to a close" and half-opened that of biology, not with his transformist theses, but the distinction he establishes between "the space of organic structure and that of nomenclature."

‡ See ibid. pp. 287-288; trans. ibid. pp. 274-276. The problem Foucault refers to here concerns the respective places that should be attributed to Lamarck and Cuvier in the history of the nascent biology. Was Lamarck, with his transformist intuitions "which seem to 'prefigure' what was to be evolutionism," more modern than Cuvier, attached to an "old fixism, impregnated through and through with traditional prejudices and theological postulates" (p. 287; trans. p. 274)? Rejecting the summary opposition, the result of a "whole series of amalgams, metaphors, and inadequately tested analogies" (ibid.), between the "progressive" thought of the former and the "reactionary" thought of the latter, Foucault shows that, paradoxically, "[h]istoricity (...) has now been introduced into nature" (p. 288; trans. p. 276) with Cuvier – as a result of discovery of the discontinuity of living forms, which broke with the ontological continuity still accepted by Lamarck – and that in this way the possibility of evolutionist thought is opened up. A broadly convergent analysis of the problem is presented by F. Jacob in *La Logique du vivant*, pp. 171-175; *The Logic of Living Systems*, pp. 156-157, that Foucault praised in a review, "Croître et multiplier," *Le Monde*, no. 8037, 15-16 November 1970: *Dits et Écrits*, 2, pp. 99-104.

§ See *Les Mots et les Choses*, ch. VIII: "Travail, vie, langage," pp. 275-292 (III. Cuvier); *The Order of Things*, ch. 8: "Labour, life, language": III. Cuvier, pp. 263-280. See also the lecture given by Foucault at the "Journées Cuvier" at the Institut d'histoire des sciences, in May 1969: "La situation de Cuvier dans l'histoire de la biologie," *Revue d'histoire des sciences et de leurs applications*, vol. XXIII (1), January-March 1970, pp. 63-92; *Dits et Écrits*, 2, pp. 30-36, with discussion pp. 36-66.

** Foucault does not deal with this question in *Les Mots et les Choses; The Order of Things*. See, "La situation de Cuvier," p. 36.

much more carefully. Darwin found that population was the medium between the milieu and the organism, with all the specific effects of population: mutations, eliminations, and so forth. So in the analysis of living beings it is the problematization of population that makes possible the transition from natural history to biology. We should look for the turning point between natural history and biology on the side of population.

I think we could say the same thing with regard to the transition from general grammar to historical philology.* General grammar was the analysis of the relations between linguistic signs and representations of any speaking subject whomsoever, or of the speaking subject in general. The birth of philology became possible when a series of investigations in different countries, particularly in central Europe, and also in Russia for political reasons, succeeded in identifying the relationship between a population and a language, and in which, as a result, the problem was how in the course of history, and in terms of the specific regularities, not of the population, but of its language, the population, as collective subject, could transform the language it spoke. Here again, I think it is the introduction of the subject-population that makes possible the transition from general grammar to philology.

To sum up, I think that if we look for the operator (*opérateur*) of transformation for the transition from natural history to biology, from the analysis of wealth to political economy, and from general grammar to historical philology, if we look for the operator that upset all these systems of knowledge, and directed knowledge to the sciences of life, of labor and production, and of language, then we should look to population. Not in a way that would amount to saying that, finally understanding the importance of the population, the ruling classes set naturalists to work in this area, who mutated into biologists as a result, grammarians who were consequently transformed into philologists, and financiers who became economists. It did not take place like this, but in the following form: A constant interplay between techniques of power and their object gradually carves out in reality, as a field of reality, population and its specific phenomena. A whole series of objects were made visible for possible forms of knowledge on the basis of the constitution of the population as the correlate of techniques of power. In turn, because these forms of knowledge constantly carve out new objects, the population could be formed, continue, and remain as the privileged correlate of modern mechanisms of power.

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* See, *Les Mots et les Choses*, ch. IV: "Parler," pp. 95-107 (II. La grammaire générale), ch. VIII: "Travail, vie, langage," pp. 292-307 (V. Bopp); *The Order of Things*, ch. 4: "Speaking": II General grammar, pp. 81-92, and ch. 8, "Labour, life, language": V. Bopp, pp. 280-294, and Foucault's introduction to A. Arnauld and C. Lancelot, *Grammaire générale et raisonnée* (Paris: Republications Paulet, 1969), pp. iii-xxvi; *Dits et Écrits*, 1, pp. 732-752.

Hence the theme of man, and the "human sciences"* that analyze him as a living being, working individual, and speaking subject, should be understood on the basis of the emergence of population as the correlate of power and the object of knowledge. After all, man, as he is thought and defined by the so-called human sciences of the nineteenth century, and as he is reflected in nineteenth century humanism, is nothing other than a figure of population. Or let us say again: If, on the one hand, it is true that man could not exist, and that only the juridical notion of the subject of right could exist when the problem of power was formulated within the theory of sovereignty, on the other hand, when population becomes the vis-à-vis of government, of the art of government, rather than of sovereignty, then I think we can say that man is to population what the subject of right was to the sovereign. There you are, all wrapped up and loose ends tied.

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* human sciences: in inverted commas in the manuscript.