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Foucault on Governmentality and Population: The Impossible Discovery*

Bruce Curtis

Abstract: For Michel Foucault's analysis of state formation, the 'discovery of population' was the pivot on which the transition from rule based on police to rule in liberal modes of government took place. Modern 'governmentality' takes population as its object. Foucault's usages of 'population' are reconstructed. It is claimed that political authorities cannot 'discover' population, for population depends on the exercise of sovereign authority.

Résumé: Michel Foucault propose que la 'découverte de population' aurait été le point tournant d'une transition entre une logique politique axée sur le modèle de police et une logique axée sur le respect de 'la nature des choses' dans un mode de gouvernement libéral. Nous retraçons les usages foucauldien du concept de "population." Selon notre argument, il serait impossible pour des autorités politiques de "découvrir" ce concept, car l'objet "population" dépend d'un exercice particulier de l'autorité politique.

In the late 1970s, Michel Foucault claimed that Karl Marx had been perfectly correct to regard the history of past societies as the history of class struggle (Foucault 1994 (1978)). However, contemporary Marxism had reduced this proposition to the continually asked questions 'what's the class?,' 'where's the class?,' 'what class do you belong to?.' And the French Communist Party confronted all social struggles with the question, 'is this struggle in the interest of the proletariat?.' Marxists asked repeatedly 'what's the class?' but never 'what's the struggle?,' 'who is engaged in struggle?,' 'what is at stake in struggle?.'

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'by what means is struggle conducted?' Marxist economism was thus incapable of making sense of the myriad struggles characteristic of contemporary political life. To come to grips with such struggles, political analysis had to 'get rid of Marxism' as a doctrine that controlled the political imagination.

The way to get rid of Marxism, Foucault argued, was not by adopting the typical tactic of sociology — discounting Marx's empirical predictions — nor by adopting the tactic of Althusser — extracting the 'one true Marx' through textual analysis. Rather, one needed to displace the analysis of social class through the use of other categories and other tactics. Foucault proposed that political analysis listen to all those voices subjugated by the authority of the Party. In modern liberal government, individual conduct and comportment have become directly implicated in the operations of power. Government focuses on the 'conduct of conduct,' and the state has been de-centred. The totality of subjugated voices exists as the population of the governed. Their struggles are those to which the French media refer as 'la grogne des catégories' [the grumbling of the categories].

This article traces the emergence and deployment of the concept 'population' in Michel Foucault's work in the period from about 1970 to 1982. The body of the piece offers a detailed textual exposition. It is preceded and followed by some critical commentary. The concept 'population' was central to Foucault's attempts to write an analysis of state formation adequate for contemporary politics. 'Population,' he argued, is the pivot on which turned the transition from rule based on sovereign authority to a 'governmentalized' rule which decentres the state under liberalism. It allows us to think the shifting coalitions that constitute the new social movements and the struggles of the governed.

Foucault maintained that there have been two major revolutions in the technologies of power since the classical age: the development of anatomopolitical techniques aimed at the individual body and the development of biopolitical techniques aimed at the collective or social body. Both sorts of techniques emerge from engagement with 'population.' Rule in modern societies, according to Foucault, is to be understood as triangulated around practices of sovereignty-discipline-government and to have as its essential object the population. In an attempt to divorce the analysis of political power from what seemed to be reductionist preoccupations with the state and class relations, some contributors to the early governmentality literature claimed that political power is 'beyond the state' in liberalism, because the 'terrain *par excellence*' of government is 'population' (Miller and Rose 1993).

Despite the evident importance of 'population' in Foucault's intellectual project for much of the 1970s, the concept has escaped sustained critical attention in the Foucauldian literature, just as it has in the related fields of the analysis of risk and the history of statistics. It is true that Mitchell Dean

observed, in relation to Foucault's claims that there was an 18th century population 'discovery,' that 'any attempt to read the [18th century] concept of population as an index of the *modernity* of political discourses is deeply problematic.' He continued that 'the concept of population in eighteenth-century thought on government is strikingly different from its classical liberal (and more recent) uses. It entails neither the formulation of policies and political action by reference to an explicitly economic rationality which is the characteristic of liberal governance, nor the welfarist focus on the enhancement of the life of 'individuals' (Dean 1991:33). Dean did not pursue such criticism in his later work, adopting instead a more charitable view towards the evident inconsistencies in Foucault's account of modern state formation (Dean 1994:180), but I will argue his observation was well-founded.

'Populousness,' the Social Body, and 'Population'

In following out the *concept* 'population,' my concern is not with the *word* 'population' as such. As one commentator on an earlier version of this article pointed out, it would be an elementary misunderstanding of the approach of 'historical epistemology' which shaped Foucault's work to take a word for a concept. In historical epistemology, one distinguishes words from concepts in that the latter 'make a difference' in theoretical discourse. As Foucault put it in his introduction to Canguilhem's *The Normal and the Pathological*, a concept 'must give access to a structure of intelligibility' (Foucault 1989 (1978):19). The modern concept of population certainly does so; or, at least, the construction of the concept population is central to the creation of new orders of knowledge, new objects of intervention, new forms of subjectivity and, I argue, new state forms.

However, the development of the concept 'population,' and more especially its deployment in rationalities of government, is to be distinguished from an earlier concept of 'populousness' and the work that it sustained both in political theory and practice. Both concepts in turn are to be distinguished from a concept midway between them: the 'social body' or the 'collective body.' Both populousness and population can sustain analyses of the 'social body,' although that body is configured differently by them. The distinction is primarily one between an organic and an atomistic view. An exposition of Foucault's development of 'population' is rendered complex for the reason that he employs the word indifferently to refer to the three concepts in question. The word 'population' is used by Foucault to refer to the concept of populousness, in discussions of police and mercantilism, for instance. The word refers to the collective or social body in discussions of bio-politics. It is used to refer to what I argue is population, properly conceived, in discussions of bio-politics and liberal modes of government.

Populousness has a long and convoluted history in western thought. It points to the sense that units of government (kingdoms, empires, countries, parishes, cities) contain greater or lesser numbers of entities — hearths, soldiers or souls, for instance — distributed across different orders or classes. Peter Biller shows that populousness was present already in Aristotle's *Politics*, and was then taken up in the canonical literature following the translation of the *Politics* into Latin. Medieval 'demographic thinking' in the canonical literature of the thirteenth century already contained relatively sophisticated discussion of matters ranging from the mechanics of generation, through the obligation of pastors to know the numbers of their flocks, to the relative size of different orders of the people in the good polity (Biller 2000). And Christian thought clearly contained a notion of the collective body, as the communion and the body of Christ.

Again, Jean Blondin wrote of populousness in his 16th century argument that census-making was an essential technique of government. Through it,

...first of all, as to the people, one would now the age and the quality; and how much one could derive from them, be it for warfare or domestic purposes, or to send them as colonists or to employ them in the works and obligations of public maintenance and fortifications, to know the ordinary provisions and means of livelihood necessary for the inhabitants of each city: principally in case of surviving an enemy siege, which it is impossible to anticipate if one does not know the number of subjects (quoted in Dupâquier and Dupâquier 1985:75–76).

The city is a collective whose parts are not equivalent, but whose survival is dependent on relations among them. The concept of populousness makes it possible to plan for the future and, in mercantilist doctrine, the degree of populousness is an index of wealth and a measure of policy.

As well, Mary Poovey argues, populousness is the concept at work in many parts of Malthus' *Essay on Population*, where generation depends upon the comportment of one order of society — men of marriageable age (Poovey 1998: 286–287). Populousness commonly involves a concern with 'numbering the people' (see Glass 1973), but because the concept implies hierarchical differentiation of orders of the people, it does not do the work that 'population' does. Specifically, it does not involve a substantial development of the work of abstraction whereby regularities emerge through the creation of relations of equivalence among heterogeneous entities.

'Population' is dependent, in the first instance, on the establishment of practical equivalences among subjects, objects or events. In contrast to populousness, whose logic centres on the hierarchical differentiation of essences (knights fight, priests pray, peasants till), population depends upon the notion of a common abstract essence. At the outer limit of abstraction, population consists of so many undifferentiated atoms distributed through abstract space and time (Curtis 2001: chpt. 1). As an object of knowledge,

population is primarily a statistical artefact. The establishment of practical equivalences means that population is connected to the law of large numbers, which causes individual variation to disappear in favour of regularity. In its developed forms, population is bound up with the calculus of probabilities. Population makes it possible to identify regularities, to discover ‘things which hold together,’ and such things may be both analytic tools and objects of intervention, such as birth, death, or marriage rates (Desrosières 1991, 1992, 2001).

Moreover, while populousness sustains analyses of the collective or social body that connect the relative size of its categories to policy initiatives, population sustains analyses that may centre on the categorization and recategorization, the decomposition and recomposition, the articulation or rearticulation of the molecular elements of the social body.

It is the political-statistical concept of population that preoccupied Foucault especially in his ‘governmentality’ work: the concept whose discovery made it possible for the Christian pastoral, with its concern for ‘each and all,’ to become part of the mentality of government — and of governmental practice. This concept, ‘population,’ made possible a logic in which the government of the state came to involve individualization and totalization. The Christian notion of a ‘flock’ or a ‘corpus,’ in which each member was the equivalent of any other, and any member was the equivalent of the whole, was paired to sovereign authority and, via this marriage, the state was ‘governmentalized.’ The commonality of souls was replaced by common subordination to sovereign political authority. Foucault repeatedly made reference to this process as the ‘discovery’ of population.

From Populousness to Population

The development of political theory and political administration in the west over the last several hundred years might be read in terms of a progressive displacement of ‘populousness’ by ‘population.’ The displacement affects how the collective body is thought in political theory and addressed in practice. When, how, and why this displacement takes place are theoretical and historical questions of some moment. Among the matters at issue are the relations between political forms and forms of knowledge; between theoretical abstractions and empirical determinations; and between contemporary political power and its object. Foucault’s account of population, I suggest, is characterized by conceptual imprecision. When paired with a tendency to locate conceptual innovation in political theory divorced from empirical practice, such imprecision leads to the positing of an impossible discovery.

The tension between ‘population’ and ‘populousness’ — or between their respective logics — is certainly present in Foucault’s early work. While it is

outside the body of work I consider directly here, it is worth pointing out that in *The Birth of the Clinic* Foucault examined the tension between a medical logic of disease essences and species and a logic of induction centred on the repeated observation of cases, where diseases presented in the complexity of their circumstances. In the late 18th century, one sees the development of notions which 'indicate that the medical field assumes a statistical structure,' although later changes in the organization of the medical field were necessary for this logic to triumph (Foucault 1973:101–102). In his analysis of the clinic, the logic of population does not seem to have penetrated eighteenth century medical practice because of organizational and political conditions. I suggest that the historical and sociological caution of this analysis is missing from the work on governmentality.

I propose that there are two sorts of interpretation and analysis of the transition from populousness to population in the body of work under consideration. One area of emergence and line of argumentation centred on Foucault's analysis of the development of social medicine. Here, I will suggest, he came closest to a defensible historical sociology of the concept 'population.' He related its emergence to the disciplined observation of individual patients in the novel 18th century technology of the curing hospital. Record-keeping about diseased individuals in individual hospitals, he suggested, led to comparative investigations of hospital records and hence to the awareness on the part of doctors and others that there were disease populations. This account was refined by an investigation of 18th century health politics, in which the domain of health was seen to be defined and delineated more clearly through a complex of specific struggles that mobilized many different actors in pursuit of a variety of projects.

While Foucault thus seemed to be on solid ground in connecting disease populations as abstractions to concrete medical determinations, his social history of the hospital was rather cursory. Moreover, comparative statistical investigation of the sort he described appears to have been a 19th rather than an 18th century phenomenon. In any case, this line of argumentation around population, which approximated Foucault's own mid-1970s methodological injunctions, was not pursued in any serious way.

A second area of emergence of population in Foucault's work is to be found in his responses to criticism of the limited scope of the 'micro-physics of power' presented in *Discipline and Punish* (Foucault 1979a) and related texts. In the middle 1970s, Foucault began to argue that parallel to and in relation with techniques of the individual body were bio-political techniques that aimed at the collective body, population. The concern with population as a political object stimulated Foucault's 1977–1978 lectures on state formation, the fourth of which, widely known under the title 'Governmentality,' pointed to population as the essential object of modern forms of government. The discovery

of population, known through political economy and organized through apparatuses of security, sustained the transition to the ‘governmental’ state and its analysis provided Foucault with a means of countering orthodox Marxist accounts of capitalist state formation.

The concept of population as an artefactual abstraction of practices of observation remained latent in those parts of *Discipline and Punish* (1979a) that analysed the subjection of individuals to normalizing judgement. Mundane techniques of writing, registering and recording attached individuals to new kinds of administrative and hence also epistemological spaces, turning them into ‘cases,’ elements in series, that could be rank-ordered and subjected to practices of ‘optimization.’ Normalizing judgement implied authoritative categorization and hence the construction of populations.

However, Foucault did not follow the explanatory tactic of relating population as an object of political government to the development of large-scale practices of social observation and recording when he became concerned with ‘governmentality.’ Instead, population was situated in the field of ‘political reason.’ Foucault argued that population was implicit in the arts of government which were anticipated in the anti-Machiavellian literature of the 17th century. However, these arts of government could not develop themselves until propitious material circumstances appeared in the second half of the 18th century. When such circumstances did appear, rulers ‘discovered’ population and made it the essential object of government.

I will argue that very considerable scepticism should be aroused by this account. On its face, the account seems to be genealogical: population, like the confessional, appears to emerge in a particular historical context in response to particular concerns and interests, and to migrate to other contexts at other moments in quite different circumstances. Yet if the distinction made above between ‘populousness’ and ‘population’ is upheld, a genealogical analysis cannot be sustained: the ‘discovery’ must be a moment of discontinuity, rather than the reappearance of a theme. The discovery is not a rediscovery, but a new construction; hence one must question its conditions of possibility. I attempt to interrogate Foucault’s account both of the conditions under which such a discovery could take place and its substance.

The Birth of Social Medicine

Foucault began using the concept ‘bio-politics’ in the early 1970s, especially in his work on the history of social medicine. Indeed, it was work on the history of the hospital that led him to the study of institutional architecture and thus to Bentham and the panopticon. The attempt to understand how medical questions came to be articulated as social questions, similarly, led him to a first engagement with bio-politics and population.

The ideas worked out in detail in *Discipline and Punish* appear already to have been formed in Foucault's course at the Collège de France in 1972–1973; 'bio-politics' was invoked in his course at the State University of Rio de Janeiro in October 1974. It was this notion that would be mobilized as the link between micro- and macro-physical forces in response to criticism of the arguments published in *Discipline and Punish*. (Foucault 1989:29–51; 1994b).

As in a great many of his texts before the shift to 'governmentality' and his later preoccupation with ethics, Foucault's free use of Marxist concepts and arguments, and his invocation of Marx's intellectual authority, are striking in the Brazilian course, 'La naissance de la médecine sociale,' even as he attempted to shift the ground of argument away from the conventional intellectual presuppositions of those close to the French Communist Party. Here he argued that the first object that the capitalism of the late eighteenth and early nineteenth centuries subjected to socialization was the body as a productive force, as labour power. Individuals were not controlled by society simply by ideological manipulation, but also by and through the body. 'For capitalist society,' wrote Foucault, 'it is the bio-political which was of first importance, the biological, the somatic, the bodily. The body is above all a bio-political reality; medicine is a bio-political strategy' (Foucault 1994b:210). But if capitalism socialized labour power, Foucault argued, this was not medicine's object in the beginning period of capitalist development. How, he asked, did the socialization of the body take place and how did medicine come to be implicated in it? There were three sequential, nationally-specific developments: the appearance of state medicine in Germany, urban medicine in France, and, after these two historically, what we would now call occupational medicine in England.

The examination of the development of state medicine in Germany served as an early occasion for Foucault to rehearse some of the arguments around cameral science that later appeared in the work on governmentality. He drew very heavily on the work of George Rosen (Rosen 1974). Germany was the site for the development of the *Staatswissenschaft*, the science of the state, whose object is to create an inventory of resources, including the conditions of life of the inhabitants, at least insofar as these constitute forces for the state. This form of knowledge developed here, Foucault claimed, because of the peculiar conditions of German state formation. A unitary German state appeared much later than in France or England. The existence of small states, deprived of large standing armies, but in continual conflict and contest, 'made necessary and possible this discursive awareness of the state functioning of society [du fonctionnement étatique de la société].' Added to this was the economic stagnation characteristic of the German states in the wake of the Thirty Years' War, which deprived the bourgeoisie of an economic field of action and led members of this class into an alliance with the sovereign authority. They

provided both human and material resources for projects of state formation (Foucault 1994b:210–211). The first modern state developed in Prussia where there was neither strong political power nor economic development.

These remarks on state formation were made solely to account for the first emergence of state medicine. One important anticipation of later arguments was the claim, again borrowed directly from Rosen, that in the mid-eighteenth century there was an enormous accumulation of information, by specially-created state agencies, about medical conditions, based directly on the systematized observations of local officials. This knowledge, whose accumulation presupposed the subordination of medicine to state authority, was about bodies within the state territory as such and not simply about workers' bodies. Commonality among these bodies was found in their subordination to the state, not in their common class position.

It is not workers' bodies that interested this public administration of health, but the bodies of individuals themselves who, collectively, constitute the State. It is not a matter of the labour force, but of the strength of the State faced with these conflicts, undoubtedly economic but also political, which opposed it to its neighbours. To this end, medicine must perfect and develop this state strength. This preoccupation of state medicine includes a certain political-economic solidarity. It would thus be misleading to seek to tie it to an immediate interest in producing a strong and freely-available labour force (Foucault 1994b:214).

Foucault takes his distance from conventional Marxist accounts through the perception that solidarities may emerge from common subordination to administrative authority and its categorizations of social relations. The insight is presented as an argument against the analytic privileging of class solidarities. Social medicine emerged in Prussia as an administrative project of the state authority. Common subordination to state medical authority fashioned a possible grounds for solidarity, but common subordination is also one ground of the equivalences that make human subjects appear as a population.

Common administrative subordination, for which medicine was a vehicle, also emerged in England and France, but following different routes. In France, argued Foucault, it was the urban question, the emergence of the city as a large-scale centre of production and exchange, that contributed to the undermining of multifarious feudal powers and their replacement by a common and homogeneous administration. The development of an impoverished urban working population, undergoing processes of proletarianisation, also propelled the formation of a common authority capable of dealing with the political threats potentially posed by it, threats emerging out of its conditions of life.

In the eighteenth century, the large cities, and especially Paris, were the site of frequent social panics, which Foucault described as 'politico-sanitary' in character. The medieval cities were already equipped with means of dealing with extraordinary threats in the form of leprosy and plague, and did so by two characteristic types of measures: exclusion in face of the former, and

quarantine in face of the latter. In Foucault's account, the reaction of urban authorities, pressured by the bourgeoisie, to the politico-sanitary menace was the refinement and generalization of quarantine. As he put it, 'public health was a refined declension of quarantine' (Foucault 1994b: 219).

Quarantine operates by identifying and separating out problematic dimensions of social life and social relations and then subjecting them to particular treatment protocols. Although Foucault was not yet invoking the concepts of totalization and individualization, they are latent in his notion of quarantine. For instance, he argued that towards the end of the eighteenth century, the political-sanitary problem of dealing with the bodies of the dead led to the individualization of the cadaver, to the individual coffin and grave. The dead of Paris were exported to the countryside, lined up one by one in rows, like a veritable army (Foucault 1994b:219).

Quarantine applied to many other dimensions of urban life that menaced health and provoked unrest: garbage removal, the isolation of slaughterhouses, or the laying out of streets to promote the circulation of air. What these techniques share is participation in centralized administrative practices that treat the city as a whole and that operate upon its vital processes through logics of categorization and sub-division: they are bio-political.

It was in England, finally, in the second third of the nineteenth century, that social medicine took the bodily existence of the developing working class as its object. There were three principal causes of what Foucault described as a change in the position of the poor from a necessary and largely invisible social category to an object of politico-medical concern. First, the struggles surrounding the French revolution and the agrarian radicalism of the 1830s made the 'needy population' into a political force capable of revolt. Second, the dependence of existing social organization on the services provided by the working poor was undermined by the development of new means of communication and transport. Such developments made them more menacing politically. Finally, there was the fear and anxiety of the plebian and proletarian populations intensified by epidemic cholera, especially the epidemic of 1832. These developments collectively propelled an interest in social medicine in England, and Foucault continued to argue that its prime vehicle was the 1834 Poor Law. However, the English case pointed to the development of multiple forms of medical power and the articulation of politico-sanitary concerns with social relations along different axes.

Population was both analytically and historically prior to class relations as an object of rule in the above lecture. In a second Brazilian lecture concerned with the related theme of the hospital as a general curative institution, Foucault argued explicitly that the disciplined hospital-space gave rise to the perception of collections of individuals as populations. 'With the introduction of discipline into the space of the hospital,' he wrote, 'medicine offers as an object of

observation a vast field bounded on one side by the individual itself and on the other by the entire population.’ Hospitals began to keep daily registers and when the registers of different hospitals were compared, pathological phenomena came to appear as population phenomena. ‘Thanks to the technology of the hospital, the individual and the population present themselves simultaneously as objects of knowledge and medical intervention....The medicine which forms in the course of the 18th century is at once a medicine of the individual and of the population’ (Foucault 1994g:521). This 1974 text is one of the first in which Foucault writes of individualizing and totalizing powers.

What is interesting in this account for my purposes is that ‘population’ is an artefact of the medical administration of groups of individuals and of certain investigative technologies. It emerges out of administrative practice that seeks to specify and reorganize social relations. Common subordination to medical administration creates the commonality, the conditions of equivalence, for the bearers of disease to appear as a population. It is the increasingly complex material determinations of medical administration that sustain the abstraction ‘population,’ even if this population is to be found on the terrain of the theory of disease.

The Politics of Health in the Eighteenth Century

Foucault moved away from this first, heavily state-centred account of the birth of medical police, and away from his analysis of social medicine as ultimately derivative from the practices of quarantine, in his influential ‘The politics of health in the eighteenth century’ (Foucault 1980a, 1994c).¹ For quarantine, he began to substitute the more general notion of a consciously thought-out ‘nosopolitics,’ the politics surrounding the establishment of disease classifications and treatment protocols, accompanying a new regime of social sanitation. The move allowed a closer attention to those aspects of medical politics best approximating the model of positive power under development, even if a casualty of it has been the possibility of analysing the role of the establishment of *cordons sanitaire* in medical administration.²

Now, however, instead of seeing medicine as closely tied to state formation, Foucault offered an analysis of the emergence of social medicine that stressed the separation of medical policy from a close preoccupation with poor relief. The analysis became more specific empirically, moving away from a consideration of abstract structural transformations like the ‘rise of capitalism’ and

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1. There is a second version with a bibliography (Foucault 1994d)—rare for Foucault.
 2. Perhaps, however, quarantine and the idea of *cordon sanitaire* reappear in the later notions of ‘disciplinary enclosure’ and ‘partitioning.’

the formation of the modern state. At issue were the emergence of a market for medical services, innovation in medical techniques, the professionalization of medical practitioners, the development of benevolent associations, and of learned societies concerned with the observation of social conditions, among other forces. The state played a variety of roles in relation to these developments but, collectively, the diverse ways in which health and sickness were problematised contributed to an awareness of them as phenomena of population: 'the health of each as an urgent matter for all; the state of health of a population as a general objective.' Health became an imperative duty for each citizen and for the collectivity, an anticipation of Foucault's later interest in pastoral power (Foucault 1994c:15).³

What is central to the politics of health in the 18th century according to Foucault, is the emergence of the health and well-being of the population as an essential objective of political power. Political power aims at the 'social body,' and society comes to be managed as a domain for physical well-being and longevity, especially through the application of the techniques of police to that social body (Foucault 1994c:17). The treatment of the sick poor, the main leverage point for medical policy, comes to be inscribed in the broader field of the health of 'population.'

Foucault argued that while this transformation was certainly related to the reproduction of labour power, it was not reducible to the analysis of class relations. The shift towards the policing of the social body was related to the political economic consequences of the 18th century demographic transition, which created a need to integrate rapidly increasing numbers of people into the apparatus of production and to control them closely. It was these forces that made 'population,' 'with its variables of number, spatial and temporal distribution, longevity and health,' appear not simply as a theoretical entity, but 'as an object of surveillance, of analysis, of intervention, of initiatives aimed at modification' (Foucault 1994c:18). Technologies of population sought to discover the secrets of demographic processes and to render them susceptible to management. They also caused the body, both as the individual body and the social body, to emerge as the site of a much larger complex of determinations. Foucault concluded this set of reflections with the observation that 'the biological traits of a population become relevant elements for economic management, and it is necessary to organize around them an apparatus which

3. The passage reads 'la santé de tous comme urgence pour tous; l'état de santé d'une population comme objectif général.' The highly readable translation by Gordon et al, oddly, at 168, gives 'the problem of the health of all as a priority for all, the state of health as a general objective of policy,' leading us to miss the pastoral overtones at first; but later they give III:16, 'L'impératif de santé: devoir *de chacun* [my emphasis] et objectif général,' as 'The imperative of health: at once the duty of each and the object of all' at 170.

will not only ensure their subjection, but also the continual increase of their usefulness' (Foucault 1994c:18).

Having presented this historical sociological account of the emergence of the object 'population,' closely related to new technologies of knowledge, Foucault suggested that the concern with it shaped family policy and also urban policy, especially through the extension of the notion of 'régime' [i.e. regimen] of health to the social body as a collective. Social sanitation was particularly significant in the new régime and, in the nineteenth century, doctors increasingly infiltrated administrative structures and the machinery of power. Indeed Foucault remarked here, as he was fond of doing, that the systematic observation at the roots of the discipline of sociology is to be found in the activities of doctors concerned with questions of the social body (compare Poovey 1995). Political medicine sought purchase on population and this quest also led to a transformation in the social role of the hospital.

The Interview

In a wide-ranging 1976 interview with Alessandro Fontana and Pasquale Pasquino, familiar to English readers as 'Truth and Power' (Foucault 1980b, 1994i),⁴ the question of 'population' as the link between the micro-powers of discipline and the general administration of social relations was posed explicitly. The interviewers suggested that disciplinary techniques did not subsist on their own, but rather were connected to the more general phenomenon of population, which appeared in the eighteenth century as an object of scientific investigation. They proposed that disciplinary power was in fact linked to two bodies: population, as an assembled mass of elements, and its component parts, docile bodies.

Foucault responded that this was precisely the line of development of his own work, and proceeded to draw a contrast between feudal powers, based on exactions and levies and tied to rituals, ceremonies, and symbols of loyalty, and new forms of power appearing in the seventeenth and eighteenth centuries based on social production and productive services. This shift in the mode of production and appropriation of the social surplus propelled the penetration of techniques of power into bodies and at the same time created a need for power to deal with population. The same techniques that led to the accumulation of capital, Foucault observed, led to the accumulation of human beings and hence

4. The English and French versions differ in some important particulars, but I have not had access to the original Italian. Notice that Gordon et al give 'the discovery of population as an object of scientific investigation' where the French gives 'the taking of population as an object of scientific investigation'; Gordon et al give 'draw support from,' the French 'connected to' etc. etc. These are not insignificant.

gave rise to the administrative problems of collective health, hygiene, longevity, fertility and demographic phenomena more generally. The political importance of sex was precisely that it was located at the intersection of individual bodies and phenomena of population.

The Stitches of Power⁵

Foucault again took up the problem of the elaboration of an alternative to what he would soon call the 'juridico-discursive' model of power in a public lecture given at the University of Bahia in 1976. After a peculiar attempt to suggest that his work was an elaboration of analyses contained in volume II of Marx's *Capital*, Foucault argued that primitive readings of Marx saw the great technological advance of the West in the steam engine, but neglected the invention of the political technology that made industrial innovation operative (Foucault 1994f).⁶ This political technology developed in two directions or included two groupings of practices: those of discipline, already well-known, and a second grouping 'which was developed...especially in England' in the second half of the 18th century, composed of 'technologies that were not directed at individuals as such, but rather were directed at population.'

Here Foucault stressed that the 18th century 'discovery' of population was what distinguished monarchical power from those forms of power that followed it. 'And what does it mean to say 'population', he asked?

It does not mean simply a numerous human group, but living beings penetrated, compelled, ruled by processes, by biological laws. A population has a birth rate, a death rate, an age curve, an age

5. 'Maille' literally translates as 'stitch' in English, but it is also the word from which comes the English 'chain mail,' armour composed of a set of rings. The sense, in any case, is of an endlessly interconnected system of relations.

6. He suggested that the elements of an alternative analysis were probably present in the work of Jeremy Bentham, but they were obviously present in the work of Karl Marx, especially in his *Capital* Volume II. 'What we can find in book II of *Capital* is, in the first place, that there isn't simply a power, but rather several powers. Powers, that means forms of domination, forms of subjection, which function locally, for example, in the workshop, in the army, in property of the slave sort, or in property where there are servile relations.' Foucault continued at length in this vein, crediting Marx with noting the positivity of power resulting from the division of labour and surveillance in the workshop and with, at least implicitly, presenting an analysis of power as technology. The privileging of the state apparatus and the juridical superstructure, according to Foucault, was a social-democratic re-reading of Marx.

Foucault did not take up and pursue these Marxist lines of argument in any systematic way. They are peculiar, since *Capital* II is mainly taken up with a lengthy and technical demonstration of the possibilities of capitalist reproduction, with which Foucault did not engage. Perhaps in this tumultuous period he felt compelled to hang his arguments on the hook of a purified Marxism. Yet, the shift from feudal to disciplinary modes of power was also directly related to the 'needs of capitalism' in this and other texts of the period.

pyramid, a degree of morbidity, a state of health, a population may perish or may, on the contrary, expand (Foucault 1994f:193).

While Foucault's account of population seemed to move indifferently from the early to the late eighteenth centuries and from Germany to France to England, the theoretical argument was increasingly refined. The discovery of population meant that it comes to be understood that power can not operate simply on individual bodies by means of exaction, but rather must operate on individuals as members of a biological species, at least if this population is to be put to productive use. 'The discovery of population is, at the same time as the discovery of the individual and the trainable [dressable] body, the other major technological nucleus around which the political procedures of the West were transformed.' In parallel to 'anatomy-politics' there emerges 'bio-politics' (Foucault 1994f:193). Bio-politics problematises elements of individual comportment, such as how to get people to have more or fewer children, but it also problematises structural conditions, such as the quality of housing. It advances both through the development of observational techniques, including statistics, and through the operations of the great administrative organs of state. Through anatomy- and bio-politics, Foucault argued, 'power has become materialist. It ceases to be essentially juridical.' Sex, once again, appears as the key link between the two political technologies.⁷

Population was again described by Foucault in this essay both naturalistically, as an empirical phenomenon with 'processes,' and artefactually, as the construction of objects of government through the investigation of administered individuals. Capitalist development was held to be responsible for demographic transformation which in turn confronted political administration with problems with which it must deal. 'Population' is slippery, existing in the account as an object of police, as a collective body, and as a statistical artefact. The statistical artefact, it is worth underlining, is seen to have been 'discovered' in the eighteenth century.

Security, Territory and Population

The development of population as an object of political knowledge and of regulatory techniques was the focus of Foucault's course on state formation at

7. Foucault, at 201, comes back to his understanding of Marx in responses to questions from a critical audience. 'Once again, here a certain kind of academic Marxism frequently makes use of the opposition of the dominant class *against* the dominated class, dominant discourse *against* dominated discourse. Well, first of all, this dualism will never be found in Marx ... because in effect Marx is too clever to be able to concede any such thing; he knows perfectly well that what solidifies relations of power is that they never end, there isn't on one side a few and on the other side many; they are everywhere: the working class reconveys relations of power, it exercises relations of power.'

the Collège de France in 1977-8, and the concept 'population' echoed increasingly loudly through his work in this, the period in which he first began to use the concept 'governmentality.' Part of his interest was also with the development of the Christian pastoral and with the migration of its concern with 'each and all' into political administration (Foucault 1989:99-106).

In his own summary of the course, 'governmentality' was defined as 'the manner in which the conduct of a mass of individuals comes to implicated, in an increasingly marked manner, in the exercise of sovereign power,' and Foucault stressed that the shift in question was *not* in any simple sense a change from a preoccupation with sovereignty, but rather a shift in emphasis. Rule as a 'mentality' of government, as a particular way of problematizing social relations, emerged historically, in this account, with the breakup of feudalism and the appearance of a new order of competition and conflict among states. Such conflict made it imperative both to know and to work to increase the internal forces of states, thus giving rise to the new rationality of 'reason of state.' In Foucault's account, quite apart from the political theories of reason of state, this rationality took form in two major sets of knowledge and political technology: a diplomatic-military technology involving a set of inter-state alliances and military construction; and the technology of police, designed to augment the forces of the state from within. These two technologies were joined by trade and by inter-state monetary circulation. It was enrichment through trade and the accumulation of money that made it possible to increase population, the labour force, and hence military might. The new reason of state focussed on the couple population-wealth, and both mercantilist economic analysis and cameralism in political administration took its increase as their privileged object.

The problematization of population-wealth as an object of rule, according to Foucault, was one of the conditions for the development of political economy as a form of investigation and analysis. Political economy emerged in part out of the realization that the administration of population-wealth could not be limited to detailed regulation and administrative coercion. For reasons that remain obscure, Foucault claimed that it was with the Physiocrats that population ceased to be 'the simple sum of the subjects who inhabit a territory.' Instead, it came to be seen as a 'variable that depended upon a certain number of factors' which, although themselves not facts of nature, could be analysed rationally. As a political problem, population derived from the experience of police and emerged in correlation with the birth of political economy. Population

is not conceived as a collection of subjects of right, nor as a mass of hands destined to labour; it is analysed as a mass of elements which, on the one hand, belongs to the general administration of living beings (population then depended on the 'human species': the notion, new to the period, is to distinguish the 'human genus' [a more general category]) and, on the other hand, may provide

a hold for concerted interventions (by the intermediary of laws, but also by changes in attitude, in ways of doing and living that may be achieved by ‘campaigns’) (Foucault 1989:103–4).⁸

Foucault’s seminar in this year focussed particularly on the techniques of police science, and reprised some of the arguments made earlier in his work on the birth of social medicine. Police science developed a bio-politics ‘which tends to treat the ‘population’ as a mass of living and co-existing beings, which evidence biological traits and particular kinds of pathologies and which, in consequence, give rise to specific knowledges and techniques’ (Foucault 1989:106).

Governmentality

Foucault described the 1977–1978 course of lectures as being ‘on the formation of the state.’ It has been the transcribed and edited version of the fourth in the course, published under the title ‘governmentality,’ that has been particularly influential for English-speaking intellectuals (Foucault 1991; I am working from Foucault 1994a).

Foucault began this lecture with an examination of the anti-Machiavellian literature of the 16th and 17th centuries which contested the proposition that the object of political analysis was the sovereign authority of the prince. There emerged here, by contrast and proto-typically, a literature concerned with the ‘art of government’ conceived as the ‘right disposition of things.’ Political analysis moved away from a consideration of sovereignty as authority above and outside the organization of bounded social relations, towards an analysis of the internal management of the state. For Foucault, the shift in analysis foreshadowed a transformation in the political form of the state itself, away from feudal state forms based on ritualized extraction towards what he called the ‘administrative state.’ The expanding literature on the art of government itself was contextualized by the break up of feudal powers and the emergence of a new competitive European state system, on the one hand, and by the Reformation’s subversion of official religion as the basis of social allegiance, on the other. Shifts in the basis of allegiance problematised the matter of the ends of government, and inter-state rivalries, once again, created an interest in a knowledge of the internal forces of states and of the means to augment them.

8. Foucault (Foucault 1994e) is reprising early work on Cuvier and Darwin. It is interesting that he credits the latter with the theoretical insight that there is no discontinuity between individuals and species, a way, I think, of reflecting on ‘each and all,’ but Keith Tribe has pointed to the weakness of this claim in relation to its characterization of political economy (Tribe 1978:80–109).

In the art of government, then, governing ceased to be seen as existing on the external boundaries of the state; it was inside the state, inside society. And Foucault emphasized that these arts presented governing as practices in continuity from the individual's government of itself, through the father's government of the household, to the prince's government of the state. The art of government sought to introduce 'economy,' conceived as right management, initially a concept that applied to household government, into political practice. For Foucault, this concern, which develops more fully in the late 18th century, marks the beginning of the conceptual shift towards our contemporary use of the word 'economy' to designate an autonomous region of social relations.

The art of government was opposed to the theory and practice of sovereignty; it invoked not law or the imposition of rules, but rather 'the right disposition of things.' This meant, first, that the ends of government were multiple and, second, that these ends were to be found in the objects of government themselves. This, for Foucault, represented an important break with sovereignty. Government was a positive form of power and, indeed, Foucault's account describes it entirely in such terms. Thus, the end of government 'is to be sought in the perfection, the maximization, or the intensification of the processes it directs'; or, again, 'he who governs, must only govern to the extent that he thinks and acts as if he were in the service of those who are governed' (Foucault 1994a:146–147). There is no interrogation of the ethical or political substance of this positivity in the essay, and no attention to the ways in which positive powers are also repressive powers.

Foucault attempted to make a connection between the quite rudimentary theoretical articulations of the art of government in the anti-Machiavelli literature, and political practice from the 16th century. His argument acquires heavily idealist overtones at this point, a product perhaps of its admittedly schematic character, but something of which I think one should be extremely wary.⁹ The theory of government has 'correlations' with political practice, but Foucault argues that its realization was blocked by the limiting framework of mercantilism and the 'reason of state' characteristic of the developing administrative states. The changing geo-political conditions of the 16th and 17th centuries propelled the development of the sciences of state, 'statistics' especially, that would later sustain the arts of government. But the framework of 'reason of state,' with its transcendental notion of state legitimacy, prevented the full development of the art of government, which has to operate not on the basis of transcendental rules, but on the basis of the reality of conditions within

9. This claim in particular has been subjected to extensive and telling criticism in (Dupont and Pearce 2001).

the state territory. 'One can say at the outset that this reason of state was a kind of obstacle for the development of the art of government until the end of the 18th century' (Foucault 1994a:148).

Unfortunately, Foucault spoke consistently in this part of his lecture as if 'the art of government' was fully formed and waiting in the wings of historical development for the appropriate conditions in which to realize itself. Whether or not this way of presenting the matter was a product of the lecture format, it is problematic as an historical account. It breaks sharply with Foucault's earlier methodological injunctions that recommended studying the ways in which particular techniques, tactics, and practices emerge out of particular localized struggles and that recommended investigating general strategies as conjuncturally-specific assemblages of such elements (for instance, Foucault 1994f:201). Still, he argued that the conditions blocking the 'realization' of the arts of government were in large part material: the Thirty Years' War, peasant and urban rioting in the mid-17th century, financial crises and so on. 'The art of government could only unfold, be thought out, lay hold of and multiply its dimensions during a period of expansion' (Foucault 1994a:648).¹⁰ But the obstacles to the art of government were also 'institutional and mental' structures. So long as politics was thought in terms of sovereign authority, the arts of government could not develop fully. The example given is mercantilism, which problematises the development of the forces of the state but which cannot do so effectively within the framework and with the practices of sovereignty. 'Mercantilism attempted to mobilize the possibilities provided by a rational art of government from within mental and institutional structures of sovereignty that blocked it' (Foucault 1994a:649).

Once again, it should be stressed that implicitly we are led to believe that there is a will to govern existing outside actual governing practices, attempting to realize itself through such practices, but finding them inadequate to itself (cf. Dupont and Pearce, 2001:132ff). Foucault spoke at such a level of abstraction that we never see concrete and grounded struggles over rule and domination as motor forces in the development of governmental theory and practice. Nor did he offer any reason for us to believe that mercantilist investigations of the forces of the state were inadequate in practice for the political or administrative projects they sought to address. Surely they appear inadequate only in hindsight: there are teleological overtones to this analysis.

10. The original uses reflexive verbs: 'L'art de gouverner ne pouvait se déployer, se réfléchir, prendre et multiplier ses dimensions que pendant une période d'expansion....' The translation in Burchell et al (Foucault 1979b:97) reads 'The art of government could only spread and develop in subtlety in an age of expansion....' How can the art of government be articulated before the conditions of its own articulation exist, except in an idealist conception?

So, how is the art of government freed, finally? In a context marked by the 18th century demographic expansion, the growth of the supply of money and of agricultural production, which fed off one another, in 'keeping with circular processes well-known to historians.' In this general context, more precisely, the art of government was freed by the 'emergence of the problem of population.' It appears to be the emergence of this problem that encouraged Foucault to speak now of 'the science' rather than of the 'art' of government; but how and where the problem of population 'emerges' or is 'discovered' was not addressed. The argument becomes circular. It is through the science of government that 'economy' came to be refocused on the domain we know as the 'economic' and it was through this science that it became possible to come to grips with the problem of population. But also, the perception of population problems and the recentring of economy made it possible to consider the problem of government outside the framework of sovereignty. And statistics escaped from the framework of sovereignty to act as one of the main forces in unblocking the science of government. Foucault left it to 'the historians' to work out the details.

Foucault's argument attempted to account for transformation in state forms and the problematic of population was the pivot upon which transformation turned. But how population came to be problematised in ways that were not restricted to the narrow preoccupation of mercantilism with population-wealth was nowhere examined. The key practical/conceptual transition, from 'populousness' under sovereign authority and police to 'population' under liberalism was not discussed. Nonetheless, it was the problematic of population and the investigative technology of statistics that freed the art of government from the limitations of sovereignty and enabled it to focus on a new order of phenomena characterized as 'economic.' Statistics demonstrated that population is an object possessed of its own regularities and its aggregations of population demonstrated the existence of objects that cannot be reduced to the operations of families (Foucault 1994a:651).¹¹ Thus, argued Foucault, the problematic of population provided the arts of government with a more general object and at once reduced the family to the status of a segment of this general object. The family came to be a relay for projects whose object is population. Population came to be the prime object and ultimate end of government, at the same time as it became a social subject.

The concern with 'how to get rid of Marxism' echoes loudly in this analysis. The formation of the modern state is not to be understood as the rising hegemony of an executive committee of the bourgeoisie preoccupied

11. The English translation is weak here and misses the emergence of phenomena through aggregation.

with the reproduction of relations of production. The modern state is a governmental state; its agencies are multiple; the techniques and tactics at their command diverse. The object of government is not first and foremost the maintenance of capitalist exploitation, and its essential subjects are not contesting social classes. On the contrary, 'population' has come to be 'the ultimate end of government: because fundamentally, what else could its end be?.' At the same time, 'population comes to be a subject, as well as an object of government' (Foucault 1994a:652).

The theoretical, political, and analytic stakes in Foucault's position are considerable. In the era of governmentality in which we now live, he maintained, the state acquires a new form. It is not a unitary, internally coherent entity, charged with a few functions centred on the reproduction of the relations of production. Hence, it is not localizable, susceptible to seizure by a revolutionary political party. Rather, the only real political struggles and the only real terrain of political contestation, argued Foucault, are to be found in the techniques and tactics surrounding the government of population. These struggles define the shifting boundaries of what is public and what is private, what comes within the competence of the state and what lies outside it. If the state continues to exist, it is precisely because it has been governmentalized, imbricated in the detailed management of population, and thus both a central instance and an ephemeral entity. While it is striking in what benignly welfarist terms Foucault described this 'governmentalized' state's relations with its object, more striking still for my purposes is the heavy work 'population' is called upon to do in the analysis and the apparent lack of reflection involved in Foucault's multiple uses of the concept. 'Population,' 'the conditions of populations,' the 'field of population,' the 'movement of population,' population as 'a subject of needs' and as 'an object in the hands of government,' the 'interest of the population': all this in a single page! (Foucault 1994a:652).

To foreshadow the work necessary for the further study of the history of governmentality, at the close of this lecture, Foucault noted that there were three things whose conjunction required investigation: the Christian pastoral, the techniques of military diplomacy and police. These correspond to the points of the triangle sovereignty-discipline-government around which modern government is oriented. To my knowledge, the 'sovereignty' point of the triangle was not pursued by Foucault before his interest shifted to a concern with liberalism, self-government, and finally, ethics. The pastoral, an examination of which I take up shortly, was discussed in detail after these lectures, and police had already figured centrally in earlier work. The investigation of the ways in which the discipline and regulation of populations is shaped by the military-diplomatic relations existing in the system of states has yet to be undertaken by those interested in 'governmentality.'

The Birth of Bio-politics

Foucault's 1978–1979 course and seminar pursued the question of bio-politics, particularly with respect to the fate of the government of population under 'liberalism,' taking as its case public health reform in mid-nineteenth century Britain. 'In a system concerned with respect for the rights of subjects and free individual initiative, how was the phenomenon 'population,' with its effects and its particular problems, taken up' (Foucault 1989:109–110)? In the seminar, the now-familiar distinction was made between police, as a governmental technology dominated by reason of state and concerned to regulate everything, and liberalism as a political theory continually concerned with the possibility of governing too much. The point of departure of reason of state was the state itself and government derived immediately from state interests. Liberalism, by contrast, takes as its object of government 'society' and attempts to tailor governmental instruments and practices to the nature of social relations in 'society.' The fate of attempts to govern the market and market relations in particular, in this account, demonstrated the inadequacy of the model of police for the maximization of economic development. Foucault argued that the question that called for further study was 'the way in which problems specific to life and population have been presented' in governmental technologies haunted, since the end of the 18th century, by the question of liberalism (Foucault 1989:109–119).¹²

Each and All

Although accounts of population are scattered throughout other texts, including *The History of Sexuality*, two other works are worth mentioning briefly here, 'Omnes et singulatim' and 'The Subject and Power' (Foucault 1981, 1983). In the first, Foucault gave an account of the emergence of pastoralism as a way of conceptualizing power relations, arguing that it represented the individualizing moment of modern power. The modern Welfare State, he argued, is the manifestation of pastoralism in contemporary administration, spending most of his lecture recounting once again the development of the theory of police.

'The Subject and Power' in fact contains two essays written at different moments and with rather different foci. The first of these is the more relevant here. In it, Foucault articulated a fuller notion of subjectification than that present in his earlier works, one which attended to subjects as capable of

12. It is pertinent to notice that 'society' and 'population' co-exist as objects of government in Foucault's account of liberalism. Later writers have tended to substitute 'society' or the 'social' for population as liberalism's governmental object (Curtis 2002; Donzelot 1984).

reflection and self-formation. He outlined at length his analytics of power, stressing that the study of power should begin with resistance. Contemporary societies continue to contain struggles against direct domination and against capitalist exploitation, but increasingly they manifest social struggles against the forms of subjection themselves. And what are these forms of subjection? They possess a totalizing moment, in which states group subjects together in order to rule them, and an individualizing moment, in which subjects are separated as the objects of pastoral power. As Foucault put it, in a well-known passage,

The reason this kind of struggle tends to prevail in our society is due to the fact that since the sixteenth century, a new form of political power has been continuously developing. This new political structure, as everybody knows, is the state. But most of the time, the state is envisioned as a kind of political power which ignores individuals, looking only at the interests of the totality, or I should say, of a class or a group among the citizens.

That's quite true. But I'd like to underline the fact that the state's power (and that's one of the reasons for its strength) is both an individualizing and a totalizing form of power. Never, I think, in the history of human societies...has there been such a tricky combination in the same political structures of individualization techniques, and of totalization procedures.

Such is the case because pastoralism has become a modality of state power. We should not think of the state as an entity that exists above and beyond individuals. Rather, it involves the organization of new forms of individuality: 'we can see the state as a modern matrix of individualization, or a new form of pastoral power.' Pastoralism now aims not at salvation, however, but at the government of life, health and well-being.

With pastoralism's increasing importance, suggested Foucault once again, the tasks of political struggle have also perhaps changed. Their aim, perhaps, should no longer be 'to try to liberate the individual from the state, and from the state's institutions, but to liberate us both from the state and from the type of individualization which is linked to the state' (Foucault 1983:213-6). Finally, note one of Foucault's last definitions of 'governmentality': it is the relation 'between the technologies of domination of others and those of the self,' that is the relation between state administration and pastoralism (Foucault 1988:19).

Conclusion

Foucault's work was influential in re-orienting political sociology and political theory towards a focus on the technologies and practices that are associated with the construction of statistical populations and towards the administrative practices that 'population thinking' makes possible. There was active interest in and a wave of publication on the subject in France at the time he was

writing. In the context of the debates of the 1970s, the demonstration that bases of solidarity existed in administrative categories that were not reducible to class relations was an important contribution. The same is true for the stress Foucault laid on the problem of the collective body as an object of government under liberalism. Moreover, the broadening of the concept of 'government' to refer to all instances of the 'conduct of conduct' did indeed shake the often extremely narrow hold economic Marxism exerted over the political imagination. Foucault's work made it possible to carry forward attempts to de-centre the state.

That being said, it is important to stress that Foucault does not offer a cogent account of 'population.' Sorting out his analysis is made complex by the conflation of the three *concepts* of populousness, the social body, and the statistical construct 'population,' to all of which at times he applies the *word* population. Most of Foucault's observations and claims about the development of anatomo-politics and bio-politics do not require the politico-statistical concept of population. He mistakenly locates the effective emergence of modern demographic concepts in the eighteenth century and erroneously suggests that they are 'discovered' by political authorities.

Analyses of anatomo-politics and body-politics are perfectly compatible with the concept populousness, with the logic of police, and with the growth of statistics. Yet the 'statistics' that are involved are descriptive rather than inductive: eighteenth and early nineteenth century statistics remains an inventory science concerned with 'the methodical and positive exposition of the objects which compose the wealth and strength of the State' (Denis 2000:13). It employs a logic of classification in which things as expressions of essences are put in their appropriate places.

The science and practice of police in seventeenth and eighteenth century European states gave rise to vast stores of information about conditions within the relevant territories and laid some of the groundwork for the shift to the use of inductive logic in statistical practice. Municipal, royal, religious and later departmental authorities in eighteenth century France conducted an extensive array of inquiries into a variety of conditions and their efforts made it possible to know such things as the numbers of births, marriages and deaths. The practice of police and inventory statistics makes it possible to determine how many people die, when and where, within limited territories but there are no 18th century national population registers. Such things remain in their local singularity. They are not paired to an inductive logic that would have permitted the emergence of conceptions of 'rates.' The concern of police with populousness could sustain campaigns directed at the individual body which sought to affect the social body, as debates over the effectiveness of smallpox vaccination show (Cole 2000; Coleman 1982).

What police, populousness, and inventory statistics could not do was to sustain the kinds of practices that make it possible for social relations, events, and conditions to appear in the politico-statistical form of population. It is this political knowledge-object whose molecular elements can be combined and recombined in pursuit of political projects. Its construction is also the construction of the uniformity of the governed. Yet the core of Foucault's argument is that there was an 18th century discovery of population. At times it is medical authorities who become aware of this object; at times the object bursts into political theory; at times it appears in France in the middle of the eighteenth century; at times it appears in England later in that century. The key claim for state formation, however, is that political authorities became aware that the domain they sought to govern was characterized by intractable regularities, about which Foucault writes naturalistically as demographic facts: birth and death rates, age pyramids, rates of death and disease, and so on. The shift to liberal government is propelled in his account by the political discovery of the intractability of things: such intractability demonstrates the limitations of police and pushes authorities to seek to govern liberally in keeping with the nature of things.

The absence of population as a developed abstraction in eighteenth century political thought and, more especially, practice is not simply a matter of empirical interest. Rather, it strikes at the substance of the claim Foucault makes about the origins of the 'governmentality.' Population cannot be 'discovered' by political authorities, for its existence as a political abstraction depends upon the work of a particular kind of sovereign political authority itself. Population depends upon the establishment of equivalences among the subjects within a particular territory. Political-scientific knowledge depends on the discipline of potential objects of knowledge. It is only on the grounds of constructed and enforced equivalences that one body comes to equal another, that each death, birth, marriage, divorce, and so on, comes to be the equivalent of any other. It is only on the grounds of such constructed equivalences that it is possible for statistical objects to emerge in the form of regularities and to become the objects of political practice. Population is coincident with the effective capacity of sovereign authority to discipline social relations. The intractability of things is inextricably tied up with the forms in which things are known and the work done to make them knowable.

Recent scholarship on the history of statistics in France shows repeatedly that it was the destruction of the status differences of the *ancien régime* that made it possible first for the dream and then for the practice of population to emerge. A further threshold of liberal governmentality is crossed when 'every person identifiers' make it possible reliably to link observable regularities to known individuals (Caplan and Torpey 2001). Joshua Cole, for instance, points

to the significance of the French revolution's abolition of status differences through the establishment of the *état civil*: 'the principle of equality of membership, once established in the *état civil* opened the way for population researchers to search for a new evaluation of every individual's function and value to society' (Cole 2000:40). Again, one can contrast the persistent and enduring problem faced by police in distinguishing individuals through technologies of bodily singularities and status differences with the schemes floated in the wake of the revolution for the construction of universal identifiers. Thus, before the revolution, Bentham, for instance, mooted schemes for tattooing individuals' names on their arms, for insisting people be called by standard names, or that members of different occupational groups be required to wear different costumes as a means of police (Bentham 1931). By contrast, Vincent Denis discusses the detailed scheme of a certain Ducrest who, in 1804, presented the Ministère de la Police Générale with a detailed plan for dividing the national territory up into small units in which all houses would be numbered, all individuals would be required during a census on a common day to declare residence in a numbered house and thence to carry a numbered identity card at all times (Denis 2000). The revolution made it possible for number to take the place of status.

The generalization of every-person identifiers, such as national systems of civil registration and nominal census enumerations, developed unevenly internationally, but generally speaking, it is a comparatively recent phenomenon. For instance, the first nominal census enumeration in England was in 1841; in Belgium in 1846; in the United States in 1850; in Canada in 1852; in Italy after 1860. Canada had no national system of civil registration until 1921. Political and administrative projects that embody individualizing and totalizing initiatives tended to follow the mathematization of statistical investigation, which is primarily a twentieth century phenomenon. While the political purchase on social relations offered by every-person identifiers was already evident in mid-nineteenth century experiments, such as the English use of civil registers to demonstrate the aquatic transmission of the cholera, both insurantal and prudential governmental technologies depend upon highly sophisticated statistical modelling. The population of the governed depends on the work of sovereign authority in creating equivalences.

Still, populations do not have to be composed of citizens and the authority that creates equivalences does not have to be that of the state. One might attempt to sustain Foucault's claims about a population 'discovery' on the part of political authorities by arguing that the logic of population was worked out at some local site or in some sector of practice and subsequently seized upon by political theorists or administrators as a model. Perhaps his temptation in his work on social medicine was to argue that medical authority in the institution of the hospital constructed forms of equivalence that caused disease to emerge

as an entity and reality apart from the diseased body. Disease populations may have shaped his thinking about other populations. On the other hand, especially from the mid-1970s, Foucault wrote of population in increasingly naturalistic terms, as a real entity characterized by resistant qualities. He seemed to participate in the dominant usage in the social sciences which treats population as a thing which awaits discovery and management. As Remi Lenoir has fittingly remarked:

In effect, what appears in the form of a 'fact of population' or of a 'demographic structure' is the result of a double social construction: demographic data are constructed in keeping with the bureaucratic categories of modern states which aim to identify individuals and to define groups...and the principle of construction of these categories is itself constructed as based in nature (Lenoir 2000:96).

If population is such a doubly constructed object, one whose naturalness naturalizes the state, it certainly makes little sense to argue that the state discovers it, and equally little sense to argue that political sociology can move beyond the state by focussing on population.

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