

# THE PATHOGENICITY OF PROGRESS

## AN ESSAY ON MEDICAL HISTORIOGRAPHY\*

by

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Two considerations are here involved, pathogenicity and progress. What is meant by pathogenic is clear enough. It refers to a quality that engenders a disturbance in the normal, which ultimately results in disease. But progress is a nebulous and relative term. We speak, for example, of 'social progress' and likewise 'of the "progress" of a disease process leading to death'. The sense in which I intend the term progress is fairly specific, referring in the main to social and economic advance. I premise therein those technological developments which in a Spencerian sense effect a social passage from the simple to the complex, and from the homogeneous to the heterogeneous. Implied in such change is a concomitant radical ecological change, and the pathogenicity of progress specifically derives from this change.

There are many historical instances that can be cited to illustrate and to support this postulation. Some of the more recent ones are perhaps the more easy to appreciate. Thus, the development of the antibiotics represents a significant technological advance. By means of these antibacterial agents, the death of many individuals has been and is deferred. The immediate results are a marked increase in total population, and a radical change in the age distribution of that population, with a marked increment in the older age segment. This assuredly is progress. It is also 'pathogenic'. It is *progress* when, by means of the antibiotic or other chemotherapeutic agent, the parturient mother is spared the heretofore generally fatal effects of a septicaemia, or the old man is saved from the mortal issue of a serious pneumonia. It is *pathogenic* when, as in the countries of limited economic and agricultural competences and resources, the infant death-rate is radically reduced, thereby giving rise to the problems of widespread and grievous malnutrition.<sup>1</sup>

The pathogenicity of progress may be social as well as biological. An appreciable number of new admissions to State mental hospitals are of so-called seniles. *When* one becomes, and by what criteria one is to be adjudged senile, are to a large extent moot issues. Seemingly, it should be easy to determine the 'competence' of a person. But, in effect, very much depends on the setting in which competence is tested. The country road is one setting and the New York subway system quite another. The man who is at home in the one can easily become disoriented in the other. Senility, therefore, may be and frequently is, the diagnostic product of an equation in which endowment is the numerator,

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and exacting circumstances the denominator. Exacting circumstances are, not infrequently, a collateral of progress.

Technologic unemployment is another instance of 'pathology resulting from progress'. Technological unemployment, initially socio-economic in character, cannot long remain free of biological consequences, untoward in nature.

Other examples can be cited in great numbers. Leisure, that is free time to be utilized at will, is a gain which man has sought since he was, for his sins, driven out of the Garden of Eden, and condemned to eat his bread in the sweat of his brow. This curse, at least for a great number of the Western people, has been lifted. The work week which a century ago was of seventy-two hours duration has now been reduced by nearly half.<sup>2</sup> Free time has been increased accordingly. But now, unstructured leisure has become a problem unique in the history of mankind, and one that is not without serious socio-biological consequences. Peoples' efforts to escape the boredom of unstructured leisure yield a most spectacular array of pathologies.

It is possible to give other instances—the crowning one perhaps is this: that thanks to what is termed 'medical progress' man now threatens to swamp the earth with his own kind—so that the world's population which currently is counted as three thousand million will, 'unless something appallingly bad or miraculously good should happen in the interval', be six thousand million by the year 2000.<sup>3</sup>

The development of ataraxic drugs is without doubt a boon to the psychiatrically sick and to the psychiatric hospitals. Yet the return to the community of so many sick who had been, some of them, confined in institutions for years and decades is not without untoward effects. Nor is every family capable of accepting and reintegrating what, in effect, is a resurrected member. Nor is the larger community always capable and ready to reabsorb the returned individual.

These cited instances must suffice to make clear what is intended by the pathogenicity of progress, and perchance also to validate the tie between the one and the other. I must, however, hasten to make clear that the foregoing is not intended as an argument to 'Stop Progress'. Nor is it a plea for what is termed social Darwinism. Confessedly, I do not know whether it would be preferable to die of diarrhoea at the age of nine months, or of kwashiorkor at the age of six years. I do not even know how right the ancient sage was who opined that *only that man* is fortunate who was never born. In a word, no moral, social or even aesthetic conclusion is intended or is to be drawn from the postulation on the pathogenicity of progress.

But there *is* an historic relevance to all this, for the pathogenicity of progress has a bearing on the comprehension of medical historical happenings, and hence, also on historiography. For where one encounters a nodal point in general history, one marked by a 'spurt of progress', of the nature previously defined, one may also expect to find some order of new, novel, and/or markedly intensified pathology. Conversely, one needs to look for some 'episode of marked progress', one that radically affects and changes the given ecology, to help account for the appearance of new and markedly intensified pathologies.<sup>4</sup>

Need I affirm the obvious, that pathogenicity is not solely associated with

progress, but may also be a concomitant of regression—and even of *static immobility*? The latter two associations are well appreciated, that with ‘progress’, far less.

I intend to treat of two diverse instances in medical history, each of which merits thoroughgoing analysis. One concerns the decline of Salerno as a great medical centre. The other involved the great epidemics of the Middle Ages. I mean here only to *suggest* that each of these medical historic ‘episodes’ is related, in a partially causal sense, to corresponding instances of historical and technologic *progress*.

As to Salerno, the lesser of the episodes, its decline is not to be attributed, as it commonly is, to the effect of its having been sacked by Henry IV in 1194.<sup>5</sup> Nor yet to the fact that Frederick II founded the University of Naples in 1224. The latter proved barely viable and was in no sense a competitor of Salerno. Rashdall, citing De Renzi and Haeser as concurring, attributes the decline of Salerno to the increasing popularity of Arabic Medicine in the thirteenth century, combined with the growth of medical faculties elsewhere.<sup>6</sup> Stephen D’Irsay comes close to the effective historic determinants, though not without first indulging in some gestures of the mystique. ‘The schools of Salerno’, he wrote, ‘lost their importance because they had accomplished their presumably historic task.’<sup>7</sup> Further on he wrote with greater objectivity—pointing out that Europe’s centre of gravity was displaced northward and that the markedly meridinal location of Salerno, which favoured it in the past, now proved a disadvantage.<sup>8</sup> That northward shifting of Europe’s centre of gravity marked in effect the beginning of Europe’s reconstruction. That was progress for Europe—but it involved the decline of Salerno.

During the early Middle Ages, Byzantium was intensively active in commerce and industry. Its ships dominated the navigable waters, and it was Byzantium that ‘made the fortunes of the cities of Southern Italy’,<sup>9</sup> among them, Salerno. But towards the end of the eleventh century, as a result of a series of wars, Venice emerged as the dominant maritime and mercantile power of Europe. She overcame all rivals, including Naples, Gaeta, Salerno and Amalfi. ‘From the end of the eleventh century, Venice held a practical monopoly of transport in all the provinces of Europe and Asia still possessed by the rulers of Constantinople.’<sup>10</sup> Salerno, once a prosperous city, may be said to have suffered attrition, because of a ‘progress’ that literally passed her by.

There is, of course, vastly more *behind* the story of the decline of Salerno than is touched upon here. The ‘progress’ referred to was multi-phased. It was not only mirrored in the revival of trade and industry in Europe, but also in the re-animation of the militant spirit of the Church and in the marshalling of the forces of Pope and Emperor which for centuries to follow contested for supremacy. But these other, larger, and deeper historic momenta, I need no more than mention. That Salerno fell a victim to ‘economic progress’ should be clear enough from the data given.

The second instance I intend to cite to illustrate the pathogenicity of progress concerns the great epidemics of the Middle Ages. Several major factors, each of them a nodal point on the scale of progress, contributed to the birth of these

great epidemics. These factors were: the extensive deforestation of Europe to gain more arable land, a marked increase in population, the revival, growth and development of large cities, the development of commerce and industry, and the consequent crowding of large numbers of persons into the constricting confines of the feudal cities.

First in this series was the agricultural revolution that occurred between the eleventh and the middle of the fourteenth centuries. During this period, inspired and guided by the religious Orders, notably the Cistercians, vast stretches of land were cleared of forest, brush and shrub. 'An immense programme was . . . quietly carried out for the conquest of the littorals, river valleys and marshes, and for the clearance of heaths and forests.'<sup>11</sup> Agriculture itself was improved. The soil was manured with both vegetable and animal matter, and was improved by the addition of complementary soil conditioners such as chalk, marl, ashes, turf and calcereous sand.<sup>12</sup> The iron ploughshare, drawn by powerful teams of oxen or horses, was employed extensively, and the earth was thus ploughed more deeply, often seven or eight times on end.

Food production increased everywhere. And everywhere population increased. The West, which had been depopulated by the 'barbarian invasions', was peopled again with extraordinary rapidity in the space of three hundred years.<sup>13</sup> At the beginning of the fourteenth century, Western Europe contained together some sixty million souls—twice as many as before the fifth century.<sup>14</sup> Unhappily, much of this increased crop of humans became surplus population. The prevailing feudal economy could not absorb them.

The younger sons of a man, overburdened with children, were often forced to leave their father in order to enable him to make payments to the Lord. Thenceforth, they swelled the crowd of vagabonds, who roamed through the country, going from abbey to abbey taking their share of alms reserved for the poor, hiring themselves out to the peasants at harvest time or at vintage, and enlisting as mercenaries in the feudal troops in times of war.<sup>15</sup>

Many, however, turned to the cities. 'The increase of population', Pirenne wrote, 'naturally favoured industrial concentration. Numbers of the poor poured into the towns [where] trade grew proportionately with the development of commerce [and] guaranteed them their daily bread.'<sup>16</sup>

As was to be expected, their condition was miserable. Unorganized and competing with one another for the work available, they were paid a miserable wage.<sup>17</sup>

Little wonder then that in the fourteenth century Europe was racked by catastrophes and social disturbances. The earliest and most devastating famine occurred between 1315 and 1317. But on the score of famine and death, it is to be held in mind that they are the results as much of the more numerous mouths to be fed as of the lesser quantities of food available.

In 1348 the Black Death appeared in Europe, and before it waned it is estimated that more than a quarter of the population perished. The fourteenth century, in effect, witnessed and experienced the ravages of many epidemic diseases, including leprosy, typhus, dysentery and smallpox. In these epidemics we may perceive the beginnings of what Major Greenwood so aptly termed the

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Crowd Diseases—diseases which initially found a fertile soil in the walled towns of feudal Europe with their cramped and unwholesome manner of life, and the inhabited spots of ground choked with the waste matter of generations.<sup>18</sup>

Wars, famines, epidemics, civil strife, revolts by peasants and by workers, religious schisms, heresies and factions, mark the fourteenth century as one of grievous turmoil and disorder. Yet the preceding two hundred and fifty years are celebrated as the Golden period of the Middle Ages, a period that experienced great progress. During this period commercial activity was revived, and industrial production increased. Town life was animated, and movable wealth, in contrast to fixed land, was increased. A new order of working class, grouped in the towns, emerged to gain both power and liberty. Through their craft organizations and their sworn corporations they gained recognition for the social value of their labour, and 'raised themselves to a level of material and moral existence unknown to their forebearers'.<sup>19</sup> But as was already observed, the century following—the fourteenth—was one of widespread and profound misery. Here, too, progress proved pathogenic.

It seems odd that historians have paid so little attention to the relation between progress and its pathological consequences. I am aware of but one modern thinker who has studied these matters in depth. Ortega y Gasset has explored them in his *Man and Crisis*,<sup>20</sup> but his concerns are chiefly with the moral and the ethical. Yet perhaps it is, after all, not so strange that the pathogenicity of progress has been so little recognized. Science discarded its ecological orientation more than three hundred years ago. It cannot, therefore, easily appreciate that *progress*, which in its true and primary order (and as we have defined it) is always innovational—not merely elaborative—always has a disruptive effect on the ecosystem.<sup>21</sup> The pathogenic effects derive from this latter consequence of progress, that is, the disruption of the ecosystem.

The consequence is inevitable, but not necessarily in degree and kind. In reconstructing the social and economic edifice, it is not inescapably necessary that it be torn down about the heads of its occupants and that they be buried in the debris of its wreckage. That the latter has been the more common experience is a matter that should be of concerted interest to historians, sociologists, and statesmen.

#### REFERENCES

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8. 'Avec le temps, le centre de gravité de l'Europe se déplace vers le Nord et la situation très meridionale, qui fut l'avantage de Salerne, la desservit.' *Ibid.*, pp. 109–10.
9. BOISSONNADE, P., *Life and Work in Medieval Europe*, London, Routledge & Kegan Paul Ltd., 1927, p. 55.
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11. BOISSONNADE, P., *op. cit.*, p. 227.
12. *Ibid.*, p. 234.
13. *Ibid.*, p. 237.
14. *Ibid.*, p. 238.
15. PIRENNE, H., *op. cit.*, p. 45.
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17. Yet these were the progenitors of both the entrepreneurs and the industrial proletariat of the capitalist economy.
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