The visible invisible

In the depths of its being, disease follows the obscure, but necessary ways of tissular reactions. But what now becomes of its visible body, that set of phenomena without secrets that makes it entirely legible for the clinicians’ gaze: that is, recognizable by its signs, but also decipherable in the symptoms whose totality defined its essence without residue? Does not the whole of this language incur the risk of being relieved of its specific weight and reduced to a series of surface events, lacking in both grammatical structure and semantic necessity? In assigning to disease silent paths in the enclosed world of bodies, pathological anatomy reduces the importance of clinical symptoms and substitutes for a methodology of the visible a more complex experience in which truth emerges from its inaccessible reserve only in the passage to the inert, to the violence of the dissected corpse, and hence to forms in which living signification withdraws in favour of a massive geometry.

A new reversal of the relations between signs and symptoms. In the earliest form of clinical medicine, the sign was not by nature different from symptoms [29]. Every manifestation of disease could, without essential modification, take on the value of a sign, providing an informed medical reading could place it in the chronological totality of the illness. Every symptom was a potential sign, and the sign was simply a read symptom. Now, in an anatomico-clinical perception the symptom may quite easily remain silent, and the significant nucleus with which one believed it to be armed proved to be non-existent. What visible symptom can indicate pulmonary phthisis with certainty? Neither difficulty in breathing, which may be found in a case of chronic catarrh, and not be found in a tubercular patient; nor coughing, which also belongs to neuro-pneumonia but not always to phthisis; nor hectic fever, which is frequent in pleurisy, but which often appears only in the latter stage of phthisis [30]. The silence of symptoms can be circumvented, but it cannot be overcome. The sign plays precisely this role of a
detour: it is not an expressive symptom, but one which is substituted for the fundamental absence of expression in the symptom. In 1810, Bayle had been forced to reject in turn all the semiological indications of phthisis: none was either evident or certain. Nine years later, Laennec, sounding a patient whom he believed to be suffering from pulmonary catarrh, combined with bilious fever, had the impression that he was listening to the voice emerging directly out of the chest, and this on a small surface of about a square inch. Perhaps it was the effect of a pulmonary lesion, a sort of opening in the body of the lung. He met with the same phenomenon in about twenty consumptive: then he distinguished it from a fairly similar phenomenon to be observed in pleurisy patients: the voice also seemed to emerge from the chest, but it was more than naturally sharp; it seemed thin and quavering [31]. Laennec therefore laid down 'pectoriloquy' as the only certain pathognomonic sign of pulmonary phthisis, and 'egophony' as the sign of pleuritic discharge. It can be seen that in anatomo-clinical experience the sign has an entirely different structure from that attributed to it, only a few years earlier, by the clinical method. In Zimmermann's or Pinel's perception, the sign was all the more eloquent, all the more certain, the more surface it occupied in the manifestations of the disease: thus fever was the major symptom, and consequently the most certain sign, and the one closest to the essential, by which the series of diseases bearing precisely the name of 'fever' could be recognized. For Laennec, the value of the sign is no longer related to symptomatic extension; its marginal, restricted, almost imperceptible character enables it to traverse, diagonally as it were, the visible body of the disease (composed of general and uncertain elements) and to attain its nature at a stroke. By that very fact, it divests itself of the statistical structure that it possessed in pure clinical perception: in order for it to produce certainty, a sign had to belong to a convergent series, and it was the random configuration of the whole that bore the truth; now the sign speaks alone, and what it declares is apodictic: coughing, chronic fever, weakness, expectoration, and haemoptysis make phthisis more and more probable, but, in the last resort, never quite certain; pectoriloquy alone designates it without any possibility of error. Finally, the clinical sign referred to the disease itself, the anatomo-clinical sign to the lesion; and although certain tissue alterations are common to several diseases, the sign that reveals them can say nothing about the nature of the
disorder: one may observe hepatization of the lung, but the sign that indicates it will not say what disease is responsible for that condition [32]. The sign, then, can refer only to a lesional occurrence, never to a pathological essence.

Significant perception is therefore structurally different in the world of the clinical as it existed in its first form, and as modified by the anatomical method. This difference is apparent even in the way in which the pulse was taken before and after Bichat. For Menurct, the pulse is a sign because it is a symptom, that is, insofar as it is a natural manifestation of the disease, and fully communicates with its essence. Thus a ‘full, strong, rebounding’ pulse indicates a plethora of blood, vigorous pulsations, and congestion of the vascular system, all of which suggest the possibility of a violent haemorrhage. The pulse holds by its causes to the constitution of the machine, to the most important and most extensive of its functions; by its skillfully grasped and developed characteristics, it uncovers the whole inside of man; thanks to the pulse, ‘the doctor shares in the science of the supreme being’ [33]. In distinguishing between capital, pectoral, and ventral pulsations, Bordeu did not modify the form of perception of the pulse. It was still a question of reading a particular pathological state in the course of its evolution, and of foreseeing its most probable development; thus the simple pectoral pulse is soft, full, dilated; the pulsations are equal, but undulating, forming a sort of double wave ‘with an ease, a softness, and a gentle force of oscillation that makes it impossible to confuse this kind of pulse with the others’ [34]. It is the indication of an evacuation in the chest region. When Corvisart, on the other hand, takes his patient’s pulse, it is not the symptom of an affection that he seeks, but the sign of a lesion. The pulse no longer possesses expressive value in its qualities of softness or fullness; but anatomoclinical experience made it possible to draw up a picture of the biunivocal correspondences between the appearance of the pulsations and each lesional type: the pulse is strong, hard, vibrant, and frequent in active aneurisms without complications; soft, slow, regular, easy to smoother in simple passive aneurisms; irregular, unequal, undulating in permanent contractions; intermittent, irregular at intervals in temporary contractions; weak and scarcely perceptible in hardenings, ossifications, softenings; rapid, frequent, disordered, and almost convulsive in cases of the rupture of one or several bunches of fleshy fibres [35]. It is no longer a question of
a science analogous with that of the Supreme Being, conforming to the laws of natural movements, but of the formulation of a certain number of perceptions of signals.

The sign no longer speaks the natural language of disease; it assumes shape and value only within the questions posed by medical investigation. There is nothing, therefore, to prevent it being solicited and almost fabricated by medical investigation. It is no longer that which is spontaneously stated by the disease itself; it is the meeting point of the gestures of research and the sick organism. This explains why Corvisart was able, without any major theoretical problem, to reactivate Auenbrugger’s relatively old and completely forgotten discovery. This discovery was based on well-founded pathological knowledge: the diminution of the volume of air contained by the thoracic cavity in many pulmonary affections. It was also explained by a datum of simple experience: the degree of dullness of the sound produced when a barrel is struck indicates the degree to which it is filled. Lastly, it was justified by experimentation on corpses: ‘If in a corpse the sound cavity of the thorax is filled with liquid by means of injection, then the sound, on the side of the chest that has been filled, becomes deadened up to the height reached by the injected liquid’ [36].

It was natural that clinical medicine at the end of the eighteenth century should ignore a technique that made a sign appear artificially where there had been no symptom, and solicited a response when the disease itself did not speak: a clinic as expectant in its reading as in its therapeutics. But as soon as pathological anatomy compels the clinic to question the body in its organic density, and to bring to the surface what was given only in deep layers, the idea of a technical artifice capable of surprising a lesion becomes once again a scientifically based idea. The return to Auenbrugger can be explained by the same reorganization of structures as the return to Morgagni. Sounding by percussion is not justified if the disease is composed only of a web of symptoms; it becomes necessary if the patient is hardly more than an injected corpse, a half-filled barrel.

To establish these signs, artificial or natural, is to project upon the living body a whole network of anatomo-pathological mappings: to draw the dotted outline of the future autopsy. The problem, then, is to bring to the surface that which is layered in depth; semiology will no longer be a reading, but the set of techniques that make it possible to constitute a projective pathological anatomy. The clinician’s gaze was directed upon a succession and upon an area of
pathological events; it had to be both synchronic and diachronic, but in any case it was placed under temporal obedience; it analysed a series. The anatomo-clinician's gaze has to map a volume; it deals with the complexity of spatial data which for the first time in medicine are three-dimensional. Whereas clinical experience implied the constitution of a mixed web of the visible and the readable, the new semiology requires a sort of sensorial triangulation in which various atlases, hitherto excluded from medical techniques, must collaborate: the ear and touch are added to sight.

For thousands of years, after all, doctors had tested patients' urine. Later, they began to touch, tap, listen. Was this the result of the raising of moral prohibitions by the Enlightenment? If such was the case, it would be difficult to understand why, under the Empire, Corvisart should have reintroduced percussion, or why, under the Restoration, Laënnec should have put his ear, for the first time, to women's breasts. The moral obstacle was experienced only when the epistemological need had emerged; scientific necessity revealed the prohibition for what it was: Knowledge invents the Secret. Zimmermann, in order to discover the force of the circulation, had expressed a wish that 'doctors should be free to make their observations in this respect by placing their hands directly on the heart'; but he added that 'our delicate morals prevent us from doing so, especially in the case of women' [37]. In 1811, Double criticized this 'false modesty', this 'excessive restraint'; not that he believed that such a practice should be carried out without any reserve whatsoever: 'this exploration, which is carried out very precisely above the chemise, may take place with all possible decency' [38]. The moral screen, the need for which was recognized, was to become a technical mediation. The libido scienti, strengthened by the prohibition that it had aroused and discovered, circumvents it by making it more imperious; it provides it with scientific and social justifications, inscribing it within necessity in order to pretend the more easily to efface it from the ethical, and to build upon it the structure that traverses it and maintains it. It is no longer shame that prevents contact, but dirt and poverty; not the innocence, but the disgrace, of the body. Auscultation is not only direct, but 'inconvenient for both doctor and patient; only disgust makes it more or less impracticable in hospitals; it is scarcely memorable in the case of most women, and in the case of some women, the size of the breasts is a physical obstacle to its practice'. The stethoscope is the measure of a prohibition transformed into disgust, and a material obstacle:
In 1816, I was consulted by a young person who presented symptoms of heart disease, and in the case of whom the application of the hand and percussion yielded poor results on account of her plumpness of figure. Since the age and sex of the patient forbade me the kind of examination of which I have just spoken (the application of the ear to the precordial region), I happened to recall a well-known acoustical phenomenon: if one places one's ear at the end of a beam, one can hear very distinctly a pin dropped on to the other end [39].

The stethoscope, solidified distance, transmits profound and invisible events along a semi-tactile, semi-auditory axis. Instrumental mediation outside the body authorizes a withdrawal that measures the moral distance involved; the prohibition of physical contact makes it possible to fix the virtual image of what is occurring well below the visible area. For the hidden, the distance of shame is a projection screen. What one cannot see is shown in the distance from what one must not see.

Thus armed, the medical gaze embraces more than is said by the word 'gaze' alone. It contains within a single structure different sensorial fields. The sight/touch/hearing trinity defines a perceptual configuration in which the inaccessible illness is tracked down by markers, gauged in depth, drawn to the surface, and projected virtually on the dispersed organs of the corpse. The 'glance' has become a complex organization with a view to a spatial assignation of the invisible. Each sense organ receives a partial instrumental function. And the eye certainly does not have the most important function; what can sight cover other than 'the tissue of the skin and the beginning of the membranes'? Through touch we can locate visceral tumours, scirrhus masses, swellings of the ovary, and dilations of the heart; while with the ear we can perceive 'the crepitation of fragments of bone, the rumbling of aneurism, the more or less clear sounds of the thorax and the abdomen when sounded' [40]. The medical gaze is now endowed with a plurisensorial structure. A gaze that touches, hears, and, moreover, not by essence or necessity, sees.

Let me quote a historian of medicine: 'As soon as one used the ear or the finger to recognize on the living body what was revealed on the corpse by dissection, the description of diseases, and therefore therapeutics took a quite new direction' [41].
But we must not lose sight of the essential. The tactile and auditory dimensions were not simply added to the domain of vision. The sensorial triangulation indispensable to anatomoclinical perception remains under the dominant sign of the visible: first, because this multi-sensorial perception is merely a way of anticipating the triumph of the gaze that is represented by the autopsy; and ear and hand are merely temporary, substitute organs until such time as death brings to truth the luminous presence of the visible; it is a question of a mapping in life, that is, in night, in order to indicate how things would be in the white brightness of death. And above all, the alterations discovered by anatomy concern ‘the shape, the size, the position, and the direction’ of organs or of their tissues [42]: that is, spatial data that belong by right of origin to the gaze. When Laennec speaks of alterations of structure, it is never a question of what is beyond the visible, or even of what would be perceptible to a delicate touch, but of solutions of continuity, accumulations of liquids, abnormal increases, or inflammations indicated by the swelling and redness of the tissue [43]. In any case, the absolute limit and the depth of perceptual exploration are always outlined by the clear plane of an at least potential visibility. ‘They are painting a picture’, says Bichat of the anatomists, ‘rather than learning things. They must see rather than meditate’ [44]. When Corvisart hears a heart that functions badly or Laennec a voice that trembles, what they see with that gaze that secretly haunts their hearing and, beyond it, animates it, is a hypertrophy, a discharge.

Thus, from the discovery of pathological anatomy, the medical gaze is duplicated: there is a local, circumscribed gaze, the borderline gaze of touch and hearing, which covers only one of the sensorial fields, and which operates on little more than the visible surfaces. But there is also an absolute, absolutely integrating gaze that dominates and founds all perceptual experiences. It is this gaze that structures into a sovereign unity that which belongs to a lower level of the eye, the ear, and the sense of touch. When the doctor observes, with all his senses open, another eye is directed upon the fundamental visibility of things, and, through the transparent datum of life with which the particular senses are forced to work, he addresses himself fairly and squarely to the bright solidity of death.

The structure, at once perceptual and epistemological, that commands clinical anatomy, and all medicine that derives from it, is that of invisible visibility. Truth, which, by right of nature, is
made for the eye, is taken from her, but at once surreptitiously revealed by that which tries to evade it. Knowledge develops in accordance with a whole interplay of envelopes; the hidden element takes on the form and rhythm of the hidden content, which means that, like a veil, it is transparent [45]: the aim of the anatomists is attained when the opaque envelopes that cover our parts are no more for their practised eyes than a transparent veil revealing the whole and the relations between the parts [46]. The individual senses lie in wait through these envelopes, try to circumvent them or lift them up; their lively curiosity invents innumerable means, including even making shameless use of the sense of shame (witness the stethoscope). But the absolute eye of knowledge has already confiscated, and re-absorbed into its geometry of lines, surfaces, and volumes, raucous or shrill voices, whistlings, palpitations, rough, tender skin, cries—a suzerainty of the visible, and one all the more imperious in that it associates with it power and death. That which hides and envelops, the curtain of night over truth, is, paradoxically, life; and death, on the contrary, opens up to the light of day the black coffer of the body: obscure life, limpid death, the oldest imaginary values of the Western world are crossed here in a strange misconception that is the very meaning of pathological anatomy if one agrees to treat it as a fact of civilization of the same order as—and why not?—the transformation from an incinerating to an inhuming culture. Nineteenth-century medicine was haunted by that absolute eye that cadaverizes life and rediscovers in the corpse the frail, broken nervure of life.

In former times, doctors communicated with death by means of the great myth of immortality or at least of the gradually receding limits of existence [47]. Now, these men who watch over men’s lives communicate with their death in the fine, rigorous form of the gaze.

However, this projection of illness onto the plane of absolute visibility gives medical experience an opaque base beyond which it can no longer go. That which is not on the scale of the gaze falls outside the domain of possible knowledge. Hence the rejection of a number of scientific techniques that were nonetheless used by doctors in earlier years. Bichat even refused to use the microscope: ‘when one looks into darkness everyone sees in his own way’ [48]. The only type of visibility recognized by pathological anatomy is that defined by everyday vision: a de jure visibility that envelops
in temporary invisibility an opaque transparency, and not (as in microscopic investigation) a de natura invisibility that is breached for a time by an artificially multiplied technique of the gaze. In a way that seems strange to us, but that was structurally necessary, the analysis of pathological tissues dispensed, over a period of several years, with even the most ancient instruments of optics.

Still more significant is the rejection of chemistry. Analysis, as practised by Lavoisier, served as an epistemological model for the new anatomy [49], but it did not function as a technical extension of his gaze. In eighteenth-century medicine there was no dearth of experimental ideas; when one wanted to know what inflammatory fever consisted of, one carried out blood analyses: the average weight of the coagulated mass was compared with that of ‘the lymph that separates from it; distillations were made, and measurements were taken of the masses of fixed and volatile salt, oil, and earth to be found in a patient and in a healthy subject [50]. At the beginning of the nineteenth century, this experimental apparatus disappeared, and the only remaining technical problem was to know whether the opening up of the corpse of the patient affected by inflammatory fever would or would not reveal visible alterations. ‘In order to characterize a morbid lesion,’ Laennec explains, ‘it is usually enough to describe its physical or perceptible characteristics, and to indicate the course it takes in its development and in its terminations; at most, one has time to use certain ‘chemical reactions’ only if they are very simple and intended to ‘reveal certain physical characteristics’: thus one may heat a liver, or pour an acid onto a degenerescence of which one is not sure whether it is fatty or albuminous [51].

Alone, the gaze dominates the entire field of possible knowledge; the intervention of techniques presenting problems of measurement, substance, or composition at the level of invisible structures is rejected. Analysis is not carried out in the sense of an indefinite descent towards the finest configurations, ultimately to those of the inorganic; in that direction, it soon comes up against the absolute limit laid down for it by the gaze, and from there, taking the perpendicular, it slides sideways towards the differentiation of individual qualities. On the line on which the visible is ready to be resolved into the invisible, on that crest of its disappearance, singularities come into play. A discourse on the individual is once more possible, or, rather, necessary, because it is the only way in
which the gaze can avoid renouncing itself, effacing itself in the figures of experience, in which it would be disarmed. The principle of visibility has its correlative in the differential reading of cases.

The process of such a reading is very different from clinical experience in its earliest form. The analytical method would consider the case only in its function as a semantic support; the forms of coexistence or of the series in which it was caught up made it possible to annul in it whatever was accidental or variable; its legible structure appeared only in the neutralization of what was not essential. The clinic was a science of cases to the extent that it proceeded initially to the diminution of individualities. In the anatomic method, individual perception is given at the term of a spatial quadrilateral of which it constitutes the finest, most differentiated structure, and, paradoxically, the one most open to the accidental, while at the same time being the most explanatory. Laënnec observes a woman who presents the typical symptoms of a heart affection: pale, puffy face, purple lips, infiltrated lower extremities, short, accelerated, panting breathing, coughing fits, inability to lie down. The opening up of the corpse shows pulmonary phthisis with concretionary cavities, and tubercles yellowish at the centre, grey and transparent around the circumference. The heart was in an almost natural state (except for the right auricle, which was very distended). But the left lung adhered to the pleura by a cellularus wrinkle, and was covered with irregular, convergent stripes in that area; the top of the lung presented fairly broad, crossed strips [52]. This particular kind of tuberculous lesion accounted for the impeded, rather suffocated, breathing and the circulatory alterations, which gave the clinical picture of a distinctly cardiac appearance. For the first time, the anatomo-clinical method integrates into the structure of the illness the constant possibility of an individual modulation. This possibility existed, of course, in earlier medicine: but it was conceived only in the abstract form of the subject’s temperament, or of influences due to the environment, or of therapeutic interventions intended to alter a pathological type from the outside. In anatomical perception, the disease is given only with a certain ‘blurring’; it has, from the outset, a latitude of insertion, direction, intensity, and acceleration that forms its individual figure. This figure is not a deviation added to the pathological deviation; the disease is itself a perpetual deviation within its essentially deviant nature. Only individual illnesses exist:

not because the perceived is necessarily the active one.

Here we are facing a question of semantics, of pronouns and their significance. This is but, one must remember, a never-ending movement; the dynamics for metamorphosis is that of a . . . simple chain of sensorial experience and reflection. For natural and pathological bladders, lungs, and their diseases—this is no longer a question of semantics, that region of eluding or acceptable knowledge which will no longer act as an obstacle to making a greater clarity of an effect—to intervene in the belief of the illness is to . . .

The law of thought in the clinic is not contemplation but a thing that seems to emerge from an oval in a circle.
not because the individual reacts upon his own illness, but because the action of the illness rightly unfolds in the form of individuality.

Hence the new turn given to medical language. It is no longer a question, by means of a bi-univocal placing in correspondence, of promoting the visible to the legible, and of turning it into the significative by means of the universality of a codified language; but, on the contrary, of opening words to a certain qualitative, even more concrete, more individualized, more modelled refinement; the importance of colour, consistency, texture, a preference for metaphor rather than measurement (as big as . . ., of the size of a . . .); an appreciation of the ease or difficulty to be found in simple operations (tearing, crushing, pressing); the value of intersensorial qualities (smooth, greasy, bumpy); empirical comparisons and references to the everyday or normal (deeper than in the natural state, an intermediate sensation 'between that of a damp bladder half-filled with air that one squeezes between the fingers and the natural crepitation of a healthy pulmonary tissue') [53]. It is no longer a question of correlating a perceptual sector and a semantic element, but of bending language back entirely towards that region in which the perceived, in its singularity, runs the risk of eluding the form of the word and of becoming finally imperceptible because incapable of being said. To discover, therefore, will no longer be to read an essential coherence beneath a state of disorder, but to push a little farther back the foamy line of language, to make it encroach upon that sandy region that is still open to the clarity of perception but is already no longer so to everyday speech—to introduce language into that penumbra where the gaze is bereft of words. An arduous, delicate work; a work that reveals, as Laënnec revealed distinctly, outside the confused mass of scirrhous, the first cirrhotic liver in the history of medical perception. The extraordinary formal beauty of the text links, in a single movement, the internal work of a language in pursuit of perception with all the strength of its stylistic originality, and the conquest of a hitherto unperceived pathological individuality:

The liver, reduced to a third of its volume, was, as it were, hidden in the region that it occupies; its external surface, slightly mammilated and emptied, was a yellowish grey in colour; when cut, it seemed to be made up entirely of a mass of small seeds, round or oval in shape, varying in size from a millet seed to a hemp seed. These seeds, which can be easily separated, left almost no gap
between them in which one might be able to make out some remaining part of the real tissue of the liver; they were fawn or reddish-yellow in colour, verging in parts on the greenish; their fairly moist, opaque tissue was slack, rather than soft, to the touch, and when one squeezed the grains between one's fingers only a small part was crushed, the rest feeling like a piece of soft leather [54].

The figure of the visible invisible organizes anatomo-pathological perception. But, as one sees, in accordance with a reversible structure. It is a question of the visible that the living individuality, the intersection of symptoms, the organic depth, in fact, and for a time, render invisible, before the sovereign resumption of the anatomical gaze. But it is as much a question of this invisible of the individual modulations, whose extraction seemed impossible even to a clinician like Cabanis [55], and which the effort of an incisive, patient, eroding language offers at last to common light what is visible for all. Language and death have operated at every level of this experience, and in accordance with its whole density, only to offer at last to scientific perception what, for it, had remained for so long the visible invisible—the forbidden, imminent secret: the knowledge of the individual.

The individual is not the initial, most acute form in which life is presented. It was given at last to knowledge only at the end of a long movement of spatialization whose decisive instruments were a certain use of language and a difficult conceptualization of death. Bergson is strictly in error when he seeks in time and against space, in a silent grasp of the internal, in a mad ride towards immortality, the conditions with which it is possible to conceive of the living individuality. Bichat, a century earlier, gave a more severe lesson. The old Aristotelian law, which prohibited the application of scientific discourse to the individual, was lifted when, in language, death found the locus of its concept: space then opened up to the gaze the differentiated form of the individual.

According to the order of historical correspondences, this introduction of death into knowledge goes very far: the late eighteenth century rediscovered a theme that had lain in obscurity since the Renaissance. To see death in life, immobility in its change, skeletal, fixed space beneath its smile, and, at the end of its time, the beginning of a reversed time swarming with innumerable lives,