

SCIENCE

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THE DAY OF THE EXPERT¹

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MSS. intended for publication and books, etc., intended for review should be sent to Professor J. McKeen Cattell, Garrison-on-Hudson, N. Y.

THE papers read before the American Association of Museums during the eight years of its life have covered a wide range of topics, reaching, one might imagine, the whole circle of museum interests. Yet there is one question, antecedent to all others, which has never been asked, and but once approached, in your presence. This is the question: Just what use are all these papers? We meet to develop and exchange our ideas; but when we separate, what power have we to put into effect what we have concluded and learned? We have the voice here. How much voice have we at home?

This question of official scope we share with every similar association; and with several it has recently become a burning question. Just a year ago there was formed an association of university professors for the determination and maintenance of professorial rights; and last winter the American Political Science Association and the Philosophical and Psychological Associations appointed committees to consider and report upon like matters.

A problem of problems like this offers appropriate matter for an initial presidential address; and its simultaneous agitation elsewhere suggests treating it in the broadest possible way—as a concern, not of one profession, but of all professions. Thus amplified, the topic becomes that of the present and future status of the specialist in the United States. Far as this theme stretches beyond the work of the permanent

¹ Presidential address, given at the ninth annual meeting of the American Association of Museums, held in Milwaukee, May 19–21, 1914.

public exhibitions we call museums, the inquiry into the day of the expert is one that vitally touches the whole official activity of every museum worker. The inquiry naturally divides itself into four:

What has been the position of the expert among us?

What change suggests itself?

What are the bearings of change?

What are the prospects of change?

We shall offer replies to these questions in succession: (1) by arguing that the prevailing attitude of institutions of the humanities in this country toward their expert employees is out of date; (2) by specifying a reform that would bring it up to date; (3) by meeting criticism of the new order; and (4) by noting its approach. We shall describe an outgrown condition, state and defend an adjustment, and report progress toward it. A glimpse of the past will lead to a glimpse of the future.

By expert will here be meant a person whose achievements demand special aptitudes long exercised; and by his day a time when these developed abilities are used to the best advantage of the community.

For the expert in this country, to-day, according to frequent remark, is not such a time; but there are signs that to-morrow will be.

Here and now, the work of the expert is largely carried on as a branch of corporate activity. Our men of science, pure and applied, our lawyers, doctors, educators, clergymen, social workers, artists and students of art, while they may practise their specialties alone, very commonly also serve some corporation, and in great numbers serve a corporation exclusively, as do most of us assembled here.

A corporation is a body of men empowered by the state to join in a certain purpose, and held responsible for its due fulfillment. At the end of his brief and hamp-

ered career as premier of England, Lord Rosebery is reported to have said: "Responsibility without power is hell." To be discharged successfully, duty must be coupled with corresponding authority. This is the foundation principle with which any study of the corporate sphere of the expert must begin.

A corporation engaging the aid of a staff is responsible at once for every detail of their action in its service, and for every detail of their outside life, in so far as this reacts upon their official activity; and hence possesses equivalent rights of control, subject only to law and custom.

Rights of total control presuppose in turn competence for total control. To ensure it, two methods of selecting the membership of a corporation are possible. In giving a certain purpose into the sole charge of certain persons, regard may be had either to the purpose chiefly, or to the persons chiefly; to their special competence, or to their general competence.

In the history of this country, the choice among men of the professions concerned was a colonial method; that among men of ability, however displayed, has been our national method.

The colonial method was an inheritance from the old world. Leonardo da Vinci is spoken of as the last European to take all knowledge for his province. With the development of the sciences and the arts after him, even men of commanding powers became specialists. Following the example of the mother country, the colonies placed their first colleges under the control of educational experts—in the main their clerics par excellence, or clergymen. An interpretation of the charter of Harvard College of 1636 given later by the colonial legislature, affirmed that the corporation was restricted to members of the teaching force; as the corporations of Oxford and Cambridge in

England still are. The charter of Yale College was issued in 1701 to ten clergymen, and provided that their successors should always be clergymen.

At the birth of our nation, the emphasis turned from purposes to persons, under the compelling force of two causes: the parity of our voting citizens, and the conditions of a new national life.

From the beginning of the new union one man was as good as another at the polls. Every vote cast was given the same weight. It followed that the recognition of the likenesses of men became dominant, and the recognition of their differences obscured. Leading men came to be thought of as like exponents of the sense and efficiency of the community. The acknowledgement of competence took the form of an acknowledgment of general competence. We of the United States have been nurtured in the belief that a man who has distinguished himself in any one direction will also distinguish himself in any other.

Our early national experience confirmed the belief at every turn. Pioneer conditions bring out the all-round man. The solid citizen in a new community is called on to be at once a farmer for sustenance, a manufacturer for clothing, a builder for shelter and a soldier for defence; often also a lawyer for justice, a doctor for the body, an educator for the mind or a teacher for the soul. The nascent civilization of the United States had its Leonardo da Vinci in Benjamin Franklin. Nor has our later progress yet thoroughly dislodged the ideal of the all-round American, fit for any task. The subjugation of a continent is in the main a business matter, and an able man may learn a business in all its branches. The practise of naming any capable person for any office has maintained itself among us because surpassing excellence has not for the most part been essen-

tial. We have fought successful wars with citizen soldiery and grown great in peace with practical men as intellectual guides. To Amiel our democracy announced an era of mediocrity; Schopenhauer called us a nation of plebeians; an Austrian royal visitor missed among us the sense of personality—the perception of that delicate but real differentiation that makes each man himself and no one else. This is the mark left on the society of the United States by our day of small things.

That day is now past; and it behooves us to examine the foundations of the emphasis which our methods of assigning responsibility impose upon persons instead of upon purposes, upon general repute instead of special fitness. When examined, our course proves an aberration from that of colonial times learned in Europe. We must go back upon history; but only to go on to a new social ideal which shall square at once with our political creed and our existing national conditions.

First, as to our political creed. The parity of voters obscures, but also implies the difference of men's capacity. In affirming that persons of a certain sex and reaching certain mental, moral and economical standards should be counted alike in the process of government, it presupposes others who do not possess these qualifications and are not to be counted at all. The conception of the equal distribution of capacity among men is negatived by the political device itself which fostered it.

It may be asked: What then becomes of the belief that men are created equal? If that renowned assertion does not mean that one man is as good as another, that all persons would show like capacity with like opportunity, what does it mean? Something totally different. Did it claim that every babe newborn might under favorable circumstances become what any other may, it

would seek to persuade us that males might become mothers. Instead of this and other absurdities but little less glaring, it proclaims the logical postulate that all real differences of human capacity are sensible facts of the present world. In Jefferson's glowing words, the inhabitants of this created frame bring none of their disparities with them from the invisible. There are no such things as divine rights, withdrawn from human scrutiny. The doctrine of equality affirms that only those persons who show themselves different should be treated differently. Its motto is the Roman challenge "*Aut tace, aut face*"—in modern American "Put up or shut up." True democracy is scientific method applied in politics. It accepts as inevitable in the political sphere also what Huxley called the great tragedy of science—"the slaughter of a beautiful theory by an ugly fact." The belief that a man who has shown exceptional powers in any one direction will also show them in any other is such a beautiful theory, exposed by our political creed to slaughter by ugly facts. Within narrow limits they confirm it. A capable farmer or efficient selectman will in all probability prove a good teacher of the rule of three, or a good postmaster. Beyond narrow limits they disprove it. Probably neither could teach Abelian functions well, or manage a wireless station. But whether verified or falsified, it is not the generalization itself, but the test of it, which is the sum and substance of the principle of equality. This is a doctrine of method, not a statement of results. It repeats in modern words the ancient injunction—"By their fruits ye shall know them." It is the merit system generalized. Admitting all verifiable disparities of human capacity, and excluding all mystic disparities, the equality of the Declaration is simple common sense. Denying them all

indiscriminately, the equality of its interpretation is literally nonsense.

Second, as to our national conditions. They are no longer those of pioneer life. The task of leading the civilization of the United States has ceased to resemble a business. No man, however able, can learn it in all its branches. Growth, as is its wont, has developed heterogeneity from homogeneity. The arts we now practise have become as long as the lives we can devote to them. Our farmers, our manufacturers, our builders, our soldiers, our lawyers, our doctors, our educators, our religious leaders, are now different persons, each given wholly to his work. The era of the all-round man has at last gone by for us also, as centuries ago it went by for the old world. The excellence that comes alone from the long exercise of special aptitude is everywhere demanded, and the demand is everywhere being met. The era of mediocrity, the nation of plebeians, is on its way to bringing forth aristocracies of demonstrated ability, and the sense of personality—the recognition of that delicate but real differentiation that makes each man himself and no one else—will not long delay its advent.

The democracy of individuality, the democracy that accepts all proven differences and no others, is the new social ideal, squaring at once with the creed of our fathers and our own conditions. With our political creed, for the doctrine of equality, in denying all supersensible differences, stops short at the sensible world. Personality is its presupposition. With our national conditions, for the all-round man is bested in every line by the exceptional man in that line, and only the best has become good enough for us. The Jack-of-all-trades is master of none, and our progress calls for masters everywhere. Finally, the democracy of individuality makes for the union

in which there is strength. The new ideal is not that of a society of persons increasingly like each other, and hence increasingly sufficient each to himself, but of persons increasingly different each from the other, and hence increasingly necessary each to the other. While the Declaration proclaimed our independence of other peoples, it assumed our interdependence among ourselves. A citizenship of similars is like the sand, composed of particles each as complete as any and with no tendency to cohere; and a political house built upon it will fall. A citizenship of dissimilars is like the rock, composed of particles supplementing and cleaving to each other; and a political house built upon it will stand.

But we have not yet acquired the courage of our fundamental political conviction, nor yet thoroughly adjusted ourselves to our larger life. The administration of collective enterprises in the United States is at present in a state of unstable equilibrium. The question of the corporate sphere of the expert is not yet settled because not yet settled right.

While the actual fulfilment of corporate purposes has in general grown beyond the competence of any but those of special aptitude long exercised, our national habit persists of placing these purposes in charge of men of ability however displayed. Any conspicuous success, especially financial success, opens the way to a position of corporate authority. The necessary result is a permissive system of control. A corporation among us executes its trust by choosing paid assistants of the special ability required, and permitting them to carry out its purposes more or less in their own way. This situation of power perforce in abeyance is one of unstable administrative equilibrium. What is permitted can also be forbidden, and may at any time be forbidden by an authority alive to its responsibility

and conscious of its power. In this event two rights to control come into conflict: the right based on capacity and the right based on law. The uncertainty of the situation is plain in the case of institutions of the humanities. Only an Orientalist can determine what antecedent study should be demanded for a course in the Vedas, only a technician whether quaternions should be used in teaching engineering, only an experimenter when a culture should be transferred from sun to shade, only a librarian what system of shelf numbering is applicable to fiction, only a surgeon how to conduct an operation in tracheotomy, only a religious leader to what spiritual exercise to invite a soul in need, only a curator how to install an ecological exhibit or make a collection of prints tell on the public, only an alienist how to control *melancholia agitata*, only a social worker how far the same methods of help are fitted to Syrians and Chinese. Yet others make up the boards on whose responsibility, by whose authority, and at whose option such decisions are taken. The permissive system settles the question of the corporate sphere of the expert but temporarily; leaving competence subject to impotence. It presents a problem, and one only to be solved by the union of the two potentially opposing rights. In the end, capacity must be given a legal standing. The skill demanded of the employee must be represented among the employers.

In contrast with the permissive system of control, that exercised according to this conclusion by a mixed board may be called the positive system. The terms refer respectively to the power of veto and the power of fiat. The positive system proposes that a corporation shall be constituted with a competence as all-embracing as its authority. Concretely, and considering charitable foundations only, it proposes that pro-

fessors in our colleges and technical schools shall be represented among the trustees of those institutions, librarians and heads of departments among those of libraries, scientific men among those of institutions of research, physicians among those of hospitals, clergymen among those of religious establishments, directors and curators among those of museums, social workers among those of foundations for popular betterment. In the most general terms it claims that any corporation should include members embodying in their own persons the special types of skill essential in carrying on its work. This claim is based on the conditions of permanent efficiency in collective enterprises. Its recognition is growing among us and will one day be general. That day will be the day of the expert.

Such a change in the make-up of corporations in this country may be said to round out an organization which practical sagacity has already partially developed in foundations of private origin and public aim among us. The men of general repute which it has been our custom to choose for positions of charitable trust have acquired by the logic of events their special necessary function in the fulfilment of these trusts. This function is that of winning support for the institutions they control. In our own country more than in any other, corporations not for profit are the fruit of private initiative. The first requisite for their establishment and maintenance is the selection of a board of trustees whose names, with those of their successors, will be an earnest of coming gifts because a guarantee of their safe and conscientious handling. Before we can do anything, we must have something to do with. But although ample and assured support is a condition necessary to the success of an institution, it is not a condition

sufficient to success. A function equally necessary, and with support sufficient, is that of the accomplishment of purpose. This is the second and no less exacting half of the task; with us overshadowed by the first, because the accumulation of our wealth has outrun our provision of knowledge and skill to utilize it. The positive system of control repairs this omission, now out of date. It supplements our present provision of means by providing also for ends. It would impose the total charge of an institution upon a body fitted to bear both halves of it. Neither the men of social and financial standing who now compose the boards of our charitable institutions, nor the specialists now active in their aid, but now commonly excluded from those boards, are equal to the whole duty. Only men of affairs are competent to the business management of their trust. Only men in comparison withdrawn from the public eye in the long exercise of special aptitudes are competent to its professional conduct. The men of means and the men of ends must join forces in order to the best achievement of their common purpose.

The practical application of the principle of control by mixed boards presents various questions.

Is the demand that all the different forms of professional skill utilized by a corporation shall be represented therein an ideal realizable in the instance of large institutions? Theoretically no; practically yes. All the expert ability employed will in a measure be represented by each professional member; and by rotation in office among them, the recurrent grasp by the board of the affairs of the foundation may be extended to minutiae in any degree.

Again, is it wise to place experts in charge of experts? The point may be debated, but is irrelevant. The positive sys-

tem does not propose to do so, but to give them a share in controlling others. The question—Who shall decide when doctors disagree?—finds its answer when another equal authority is present to add considerations beyond the scope of either. Such deciding voices are provided for in the mixed boards contemplated in the positive system. Its ideal is that every form of consideration which enters into the work in hand shall have its representative in the body which controls.

Again, should the experts employed by a charitable corporation be eligible thereto, or ought its professional membership to be chosen outside? Choice from the staff suggests a double doubt. Suppose a superior officer and his subordinate chosen; would not their equality on the board weaken the administrative control of the superior? No; for the equality is that of ultimate authority. The superior exercises his control as the delegate of the inferior as well as of himself and others. The inferior who disputed it would question his own right. There is no surer means of interesting any one in subordination than to give him power.

The doubt has another bearing. It also reflects the importance of the individual interests at stake in the case of employees. Will not their concern for their pay, as a rule, dominate their concern for their work?

The democracy of similarity says yes. The craving for money is the dominating motive in all men at all times. The democracy of individuality says no—basing its reply on a distinction. As social affairs are now arranged, some money is a perpetual necessity to us all, hardly less inexorable than the air we breathe. Else why should men and women still starve among us? But more money is an increasing luxury, the desire for which may be outweighed by many other interests. The *auri sacra fames* is an

illegitimate child of the hunger for bread. In the case of the paid expert in a charitable corporation, some money is at most times assured, and motives are at all times present capable of tempering the desire for more. There are thus two reasons why his interest in his pay will not certainly dominate his interest in his work. His salary, while always moderate, is within limits safe; and the long exercise of his special aptitudes is at once fruit and source of motives apart from those of gain. The patience with which the specialist follows his task is the result of the fascinating germinal power of the ideas upon it of which his brain is the theater, and which his hand transfers to real life. They may become an efficient anti-toxin for the *cacoethes habendi*. Those who have had much to do with experts can echo the statement of Renan—"The reason why my judgments of human nature are a surprise to men of the world is that they have not seen what I have seen." To admit a rule by which experts when paid shall be excluded from charitable boards is to commit the absurdity of at once recognizing the exceptional man and treating him as if he were like all other men. Other grounds of bias—the desires for honor and power—unpaid members share with him. The receipt of pay as well will not disqualify those worthy of it.

Again, how are the permissive and the positive systems, respectively, related to the rights of free thought and free speech? These universal rights, so-called, are in essence duties of men in power. They should see to it that they do not so uphold the social order as to bar its advance. While all authority, therefore, is obligated to reduce to a minimum its repression of ideas and their utterance, no organization of control will absolutely prevent all danger of too high an interpretation of this minimum.

But a system by which seekers after truth in corporate service themselves share in the management tends to keep it within bounds. The positive system of corporate control thus obviates a danger to freedom inherent in the permissive system. It comes to the aid of free thought and free speech, entails a liberation of the spiritual forces within a nation.

The inclusion in charitable boards of men experienced in the actual accomplishment of their purposes is not new in this country either as a fact or an ideal. Their representation, never wholly lacking, is growing, and its extension is advocated with authority.

Frequently, if not commonly, a single chief executive officer, the head of the staff, is included in the board of trustees. The old ideal of the all-round man lingers in this provision, here swollen to impossible proportions. The admitted difficulty of finding satisfactory executive heads for institutions of the humanities is the sign of an unreasonable demand upon human capacity. No single executive, however active and talented, can embody in himself various types of modern professional knowledge and skill. The due representation of men of ends in any considerable corporation will always be a number greater than unity. A fair fraction of the board must be selected from their ranks. The demand upon the executive is thereby decreased to the manageable proportions of a business leadership, either with or without a special professional function.

Specialists have found a place already in a number of our scientific and artistic corporations. The charter of a noted scientific school, affiliated with a university, stipulates that of the corporation of nine, one third shall always be professors or ex-professors of the school. In another institute a larger proportion are persons in im-

mediate control of the scientific work. No commanding need of appeal to the community for financial support existing in these cases, the men of ends have taken their natural place in the management along with men of means. Among museums of art more than one has chosen trustees from its own working staff and those of neighboring institutions.

In our chief universities, it has become the practise to allow the alumni a large representation in the board of trustees. Of the two bodies of persons concerned in the actual achievement of the teaching purpose—the teachers and the taught—this practise accords to one—the taught—its share in ultimate management. The step suggests, and may be believed to announce, a second, by which the other body—the teachers—will gain a similar representation. The class of alumni trustees has for its logical complement a class of faculty trustees; a class more indispensable to vital university success than their predecessors, in that they represent not the subjects but the source of university discipline.

The step has found prominent advocates. In the *Atlantic Monthly* for September, 1905, President Pritchett asks “Shall the university become a business corporation?” He suggests that the business of graduating men has little to do with the art of educating them, and concludes

In the settlement of the larger questions of administration . . . may not some council composed of trustees and faculty jointly share the responsibility to advantage? . . . To-day we need, in my judgment, to concern ourselves in the university with the spiritual side of administration.

In articles entitled “University Control” published in *SCIENCE* in 1906 and 1912, Professor Cattell proposes that professors should take their place with alumni and interested members of the community in the corporation of a university, and re-

ports favoring opinions from a large majority of those holding the most important scientific chairs in the country. In his report for 1911-12 as president of Cornell University, Dr. Schurman writes:

The only ultimately satisfactory solution of the problem of the government of our universities is the concession to the professorate of representation on the board of trustees or regents.

Such agreement in a recommendation is a prophecy of its acceptance.

When the day of the expert arrives, every corporation employing specialists will have its class of professional members, whether in a majority or a minority, whether chosen within or outside the staff, whether for limited periods or without term. Historical causes have both denied and begun to restore to expert ability in this country a place in the corporations to whose work it is necessary. The system of positive control by mixed boards is a final settlement of the question of the corporate sphere of the expert because the right settlement, granting to competence its share in the management of competence. The day of the expert brightens on the horizon. Let us welcome its advancing beams. Either we ourselves, or our early successors, will be called to labor in its full sunshine.

BENJAMIN IVES GILMAN

April 15, 1914

A TRIBUTE TO DR. HENRY P. WALCOTT

THE following letter was presented to Dr. Henry P. Walcott on the occasion of his retirement from the Massachusetts State Board of Health:

TO HENRY P. WALCOTT, M.D., LL.D., CHAIRMAN,
MASSACHUSETTS STATE BOARD OF HEALTH;
FROM TWENTY-TWO HUNDRED MEMBERS OF THE
MEDICAL PROFESSION OF THE STATE,—GREETING.

Sir: On the 19th day of May, 1914, your term as a member of the State Board of Health ends, and we understand you are not a candidate for reappointment.

Such an occasion can not be allowed to pass unnoticed, at least by those citizens who, as a class, should be most competent to gauge the value of such services to the state as yours have been.

The best appraisal of those services is the mention of some of them, with a brief statement of your relations to the board.

Your connection with the board began in 1880, 33 years ago, when, after ten years of independent existence, it had been merged with the conjoined Board of Lunacy and Charity, and you were unanimously elected its health officer. At this time, you served on a commission for the sanitary improvement of the Blackstone River, a precursor of your subsequent labors on similar problems.

In 1886, by an act of the legislature, the Board of Health once more entered upon an independent existence. You were appointed a member for a seven years' term by Governor Robinson, a Republican, with the advice and consent of the senate, and became the chairman. You have since been reappointed three times for terms of seven years: once by Governor Russell, a Democrat, in 1893; once by Governor Crane, Republican, in 1900; and once by Governor Guild, Republican, in 1907. Since 1886, you have always continued as chairman of the board.

Early in 1894, you began to consider the advisability of establishing a laboratory for the free production and distribution of diphtheria antitoxin; and such curative serum was actually distributed early in 1895, being the first so distributed in any state. This was made possible through the co-operation of Harvard University, secured by your influence, at the Bussey Institution, and was carried on for nine years—during this time as well as later under the personal direction of Dr. Theobald Smith—until 1903, when the legislature enacted a law authorizing the State Board of Health to produce and distribute antitoxin and vaccine virus. Again through your influence, a laboratory was built on the grounds of the Bussey Institution where the preparation of antitoxin and animal vaccine was carried on together.

Within the last four years, you have served as chairman of two state commissions appointed to consider various important tuberculosis problems: one in 1910, and one in 1912. Reports were made to the legislature and printed as public documents.

It is impossible to separate your work in connection with the Board of Health from that in connection with the North and South Metropolitan Sewerage Systems, the Charles River Valley System, the Charles River estuary improvement, the