us from the point of view of the student of natural sciences, who takes human nature for his subject, are novel and are important. They touch upon the fundamental questions underlying the history of human civilization, and their clear formulation must be recognized as a distinct contribution of anthropology to the scientific development of the day. Most important among these results is, perhaps, the recognition of the fundamental sameness of the traits in human culture the world over and of the psychic unity of mankind. The data on which these conclusions are based have not been without influence upon modern history and modern philology, and I do believe that if we have to learn much from you, we can also offer in return a point of view that will prove fertile in your work. The modification of the theories of the development of mythology, the better appreciation of the earliest development of Greek and Oriental culture, would hardly have come about if anthropological points of view had not made themselves felt in the minds of archeologists and philologists. If it must be *our* endeavor to broaden our methods by learning from *you* the foundations of historical research, we may offer to you also the results of many honest attempts of applying the methods of natural science to the phenomena of human culture.

Let us hope that our first joint meeting may introduce a period of closer contact, of greater readiness on the part of anthropology to learn from her older sisters, and of a better understanding of the aims of anthropology by students of language and of history.

FRANZ BOAS.

THE CONDITIONS OF ADMISSION TO COLLEGE.[1]

THE topic assigned me springs out of a paper given at the July meeting of the National Educational Association upon another topic assigned me: 'Which is better, the western plan of admitting students to colleges and universities by certificates from duly inspected secondary schools, or by the eastern method of admitting only by examinations conducted by representative boards or otherwise?' An abstract of my treatment of this subject may best serve as an introduction to the topic of to-day:

Within a few years it may be determined which plan, with all it implies in shaping far-reaching educational ideals and practises, shall be national. The term 'western' and 'eastern' must not import provincial pride, or sound a note of sectionalism.

The examination by the separate college of the individual candidate, giving 'personal contact,' has failed on account of the increase in numbers.

The college entrance examination board organized in 1900, examined some 2,100 candidates this year—a Lilliputian effort as compared with the need to examine some 66,000 candidates. It has all the disadvantages of massed examinations, making it a gamble for the entering student and of judgment simply upon paper.

The New England college certificate board cares for some 2,000 candidates and has the virtue of resting upon the judgment of the teacher acquainted with the pupil. But it lacks any note of nationality and is without provision for any proper inspection and accrediting of the schools.

President Hadley has just announced that for the present Yale will adhere to the separate examination system. Yet President Hadley personally would give teachers of proved ability the opportunity to recommend for provisional admission to the freshman class. Thus President Hadley is not far from the kingdom of the outright accrediting system for which we hope he may become a leader, not only amongst his brethren of the eleven colleges in the New England college entrance certificate board, but throughout the nation. The whole thing might be done if

[1] Can there be a coordination of the examining, certificate, and accrediting (including school inspection) systems for admission to college looking toward a common or national administration in the interests of students, colleges and the preservation of the standards? Discussion opened by President George E. MacLean, of the State University of Iowa, at the meeting of the National Association of State Universities, Washington, D. C., November 13–14, 1905.

Commissioner Draper and President Butler became his coadjutors.

The so-called 'western' is really a development from the German plan. It, in some form, logically accompanied a state public school system crowned by a state university. It has been adopted also by private universities so that it covers the entire territory from the Ohio to the Pacific, and overflows into southern and eastern states. At present there are twelve state or state university inspectors in as many great western states—supplemented by visitors from great private institutions. In the north central association of colleges and secondary schools, there has been for six years a commission on secondary schools and college entrance requirements, at the heart of which is a board of high school inspectors. Uniform standards and entrance blanks have been prepared. But now a list of first-class schools meeting the standards of the commission is becoming an accredited list throughout the entire northwest.

The accrediting system has raised the standard of the work done. It has linked the secondary school into one system with the college. It has given an increase of students entering college, and with better average preparation. At the university of Pennsylvania in the fall of 1901, of those entering by examinations 49 per cent. were conditioned as against only 29 per cent. of certified students. An investigation by Principal Ramsay showed that the certificated students excelled in mental ability five to one. In the general performance of college duties they excelled three to one. Professor Whitney, of Michigan, found that the average standing of the certified student was more than 1.5 per cent. higher than for the examined student.

Professor T. Gregory Foster in the report of the Alfred Mosley commission rejoices that it is a fundamental principle in American universities that thé man who is fit to teach is also to be trusted to examine his own students. He says the accrediting system of the middle west is a most significant plan and one rapidly spreading into the east.

In the states where it has been adopted the whole educational system has been unified and strengthened. The barriers between various grades of teachers are being removed. The teaching of all classes of teachers is thereby made more direct, more stimulating and attractive to students. The accrediting system as versus the older leaves the teacher and the taught free and thereby stimulates to better training.

Professor Foster quotes President Harper as opposed to the accrediting system when he left Yale, but now as a firm believer in it as a result of his experience. The professor concludes, 'It is perhaps one of the most noteworthy contributions of America to educational progress.'

What we do we must do quickly. A national system (meaning thereby governmental coordination and possible inspection in harmony with the voluntary cooperation in many western states, concatenating secondary schools, colleges and universities) will give modern interstate educational privileges, long needed to keep up with interstate commerce and life, and heightening national ideals and power.

That there can be local coordination of the examination, certificate and accredited systems for admission to college is clear, because it is already accomplished in fact. It is true in many institutions. We have an excellent illustration in the report for 1904–5 of President Schurman of Cornell. He says:

In the year 1904–05 the number of matriculants presenting certificates in satisfaction of the entrance requirements was 317, and the number of schools they represented was 154. It is sometimes alleged that the scholarship of students admitted on certificate is lower than that of students who are required to pass examinations. But the experience of Cornell University does not support this contention. And consequently the faculty sees no reason for disturbing an arrangement which, as Dean Crane points out, 'is convenient both for the schools and the university.' Nevertheless, Cornell has from the first cooperated with the College Entrance Examination Board and many of its matriculants enter by the way of the board's examinations. Thus of 1,817 taking the board's examinations in 1904 not less than 251 announced their intention to enter Cornell University. A third avenue to the university is the regents' diploma for New York state students; and with this credential 238 matriculated in 1904–05. There remains the method of entrance by examinations at the university, which are now given only in September, and of this method 27 availed themselves in 1904–05. The remaining members of the freshman class were admitted on credentials from other universities and colleges, or on medical students' certificates.[2]

[2] Cornell University, President's Report, 1904–05, pp. 36–37.

The Cornell case, showing that there can be a local coordination, shifts the emphasis of our discussion to the question whether there can be a common or national administration in the interest of students, colleges and the preservation of standards. That there are a tendency and need and a longing for a common, and indeed a national administration, is evident. The tendency springs from axioms of economic science like that of 'planless production makes waste.' The spirit of this era of cooperation and combination intensifies the longing and the need becomes positive as rapidity of transportation and communication facilitates migration. The unifying of the republic, the emphasizing of American ideals with a deepening consciousness of our world-wide relations, unite the tendency, longing and need into an aspiration and positive demand for the recognition and development of a national system of education.

This appears in unexpected ways. President Schurman in his report, referring to Mr. Carnegie's professorial pensions and Mr. Rockefeller's subsidies for general education in colleges, says:

> Both philanthropists have risen above the idea of a single institution and have grasped the conception of a national system of higher education. And the bounty is as splendid as it is unparalleled in the history of higher education in America. But relatively to the ideal of an efficiently organized system of higher education in the United States, it is only a beginning.[3]

President Hadley's last report,[4] true to the spirit of Yale, breathes with the thought of becoming national. He would gladly appropriate the genius of the state university. He cites Yale's work in forestry as 'including the kind of public work which makes the modern university something more than a mere group of schools and elevates it to its highest possible rank —that of a public servant.' He dwells upon considerations of public duty as affecting the requirements for admission. He says:

> If the Yale requirements should get so far out of the line of work furnished by the better kind of high schools in the country that we could not expect to get boys from those schools, we should soon become a local institution. Yale would be a school for boys of one kind of antecedents, instead of for boys of all kinds of antecedents; and as soon as it became a school for boys of one kind of antecedents only, it would lose its value as a broadening influence to its students and as a factor in the life of the whole nation.
>
> Our policy with regard to entrance requirements is thus governed by two separate considerations: our duty to ourselves of not admitting boys except those who are able to do the kind of work which will be required of them, and our duty to the public of admitting all kinds of boys who can do this, on as equal terms as possible. Our student body must be at once hard working and national.[5]

He then makes this surprising application of this splendid doctrine:

> In order to make ourselves national we admit boys to our undergraduate courses by examination only and not by certificate. We believe that the examination method is fairer to boys who come from distant places. The certificate system is the natural one for the state university, which draws its pupils chiefly from the schools of one locality and can inspect and examine those schools; but if a national university tries to apply this system it gives either an unfair preference to the boys from schools near at hand, or an inadequate test to the boys from remote ones.[6]

The plausibility of this conclusion disguises the logic of the actual present conditions. As if one institution could become national by refusing recognition to the arrangements of great national groups of secondary schools and colleges like those of the New England College Entrance Certificate Board, and those of the College

[3] Cornell University, President's Report, 1904–05, p. 74.

[4] SCIENCE, October 27, 1905, p. 514 and following.

[5] SCIENCE, October 27, 1905, p. 518.

[6] *Ibid.*, p. 519.

Entrance Examination Board of the Association of Colleges and Preparatory Schools in the Middle States and Maryland, and the accrediting system of the state and private universities and colleges, particularly as unified through the Commission of Secondary Schools and Entrance Requirements, with its board of high school inspectors, in the North Central Association of Colleges and Secondary Schools! How can an institution hope to become national by becoming isolated and local in setting its own examinations? Under this idea confusion becomes worse confounded as institutions multiply with aspirations to be national, but insisting upon making their own examinations. What a reversion this is is evident in the light of the approximation to something national which began to appear through the three or four great provincial organizations just mentioned, covering most of the national territory. By the same token that the certificate system is a natural one for the state university, it would seem to be the one for a national university.

The great state universities draw their students from many states and countries and have learned by a system of comity that they can safely accept the inspection and accrediting of sister state universities. In fact, with the exception of but three prominent institutions, Harvard, Yale and Princeton, have we not arrived at a practical coordination of the examining, certificate and accrediting system in that the institutions in the great provincial organizations above referred to, upon occasion accept the testimonials issued by the authorities of any one of these systems? It only remains to see that what the student migrating from one of these great provincial groups to another accomplishes in entering an institution, is safeguarded from fraud or misinterpretation, and that positively uniform and high standards are maintained by the establishment of a proper channel for exchange of documents.

A common administration could be established through a delegacy consisting of secretaries of the existing provincial organizations. Indeed, the College Entrance Examination Board affords a hint as to a way to do it. It provides that representatives of the secondary schools on that board may be appointed by the New England Association of Colleges and Preparatory Schools, the Association of Colleges and Preparatory Schools of the Middle States and Maryland, the Association of Colleges and Preparatory Schools of the Southern States and the North Central Association of Colleges and Secondary Schools.

'Each association may appoint one secondary school representative for every three colleges and universities represented in such association and admitted to membership in the board';[7] but under the limitation that the colleges must be admitted by vote of the board to membership, and that the number of secondary schoolmen appointed by any one association shall in no case exceed five.

The scheme of the College Entrance Examination Board strictly interpreted, it will be seen, is not automatic; it requires election and is exclusive, and necessarily under their scheme, of anything but the examination system.

Let these associations inaugurate a movement by having a conference of representatives from the associations, to which also representatives of Harvard, Yale and Princeton might be asked.

The first step of a common administration, coordinating the examining, certificate and accrediting systems, seems relatively easy. When we import the term *national* administration in the higher or govern-

[7] *Educational Review*, October, 1904, p. 265.

mental sense, the difficulties are greatly increased and differences of opinion will multiply. For one, however, I venture to believe that the movements under way will not rest until in some conservative way we have a national attachment—that is, a governmental point of attachment. It must be conceded in the words of Commissioner Andrew S. Draper, upon the legal status of public schools, 'that while they are not national, neither are they local institutions —rather are they state institutions.'[8] In another place he says: at the close of the Revolution, 'it was easily conceived to be a function of government to *encourage* schools.'[9]

Since the American school system has come to be supported wholly by taxation, it has come to depend upon the exercise of a sovereign power. In the United States the sovereign powers are not all lodged in one place. Such as have not been ceded to the general government are retained by the states. The provision and supervision of schools is one of these. Hence the school system, while marked by many characteristics which are common throughout the country, has a legal organization peculiar to each state.[10]

Great as are the systems of state schools covering the most of the land and culminating in New York in the most complete state system, unifying the public and private institutions, they do not satisfy, but on the contrary they feed the hunger for a national system, but better, for a federal coordination of the state systems. The state of New York blazes the way for an analogous plan blending the private and state institutions and relating them to the federal government.

An objector will recall the legal status above conceded, and specifically that the Bureau of Education is only advisory, a collector of statistics and an educational clearing house.[11] But as 'necessity is the mother of invention,' and brought forth after the Civil War with the need of education in the south for the freedman and for the immigrants, through the advocacy of a Barnard and a Garfield, in 1867 the Bureau of Education, so again, following the Spanish-American War, necessity for education in our new possessions, including Alaska, has tended to a development of the Bureau of Education.[12]

The committee on resolutions of the National Educational Association, Nicholas Murray Butler, chairman, brought in a report adopted by the association earnestly urging

Upon the Congress the wisdom and advisability of reorganizing the Bureau of Education upon broader lines; of erecting it into an independent department on a plane with the Department of Labor; of providing a proper compensation for the Commissioner of Education; and of so constituting the Department of Education that, while its invaluable function of collating and diffusing information be in no wise impaired, it may be equipped to exercise effective oversight of the educational systems of Alaska and of the several islands now dependent upon us, as well as to make some provision for the education of the children of the tens of thousands of white people domiciled in the Indian Territory, who are without any educational opportunities whatever.

Such reorganization of the Bureau of Education and such extension of its functions we believe to be demanded by the highest interests of the people of the United States, and we respectfully but earnestly ask the congress to make provision for such reorganization and extension at its next session. The action so strongly recommended will in no respect contravene the principle that it is one of the recognized functions of the national government to encourage and to aid, but not to control, the educational instrumentalities of the country.[13]

Dr. Butler in an editorial in the *Educa-*

[8] *Proceedings and Transactions*, N. E. A., 1889, p. 183.

[9] 'Education in the United States,' edited by Nicholas Murray Butler, Vol. I., 1900, p. 5.

[10] *Ibid.*, pp. 17–18.

[11] 'History of Education in the United States,' Dexter, p. 202.

[12] 'Addresses and Proceedings,' N. E. A., 1901, p. 435.

[13] 'Addresses and Proceedings,' N. E. A., 1900, p. 31.

tional Review, 1901, follows up the subject conservatively:

> Questions of erecting the Bureau of Education into an executive department, with a seat in the Cabinet, as was proposed by Senator Hansbrough's bill, introduced into the Fifty-sixth Congress, or of organizing it on the same plane as the Department of Labor, are not necessarily involved, and may wisely be postponed until public opinion on the subject is better informed and more clearly formulated. All immediate necessities could be met by an amendment of existing law that should provide for a bureau of education with two divisions: a division of statistics and reports, to do the work now done by the bureau; and a division of supervision and administration, to take up the oversight of the school systems of Alaska, of the white residents in Indian Territory, of Porto Rico and of the Philippine Islands.[14]

With our eyes opened by foreign needs in this era of a new nationalism, would it not be well to turn them upon our greater domestic educational needs and the needs of our own white children for developing the bureau as shown by the subject we have in hand. Some sense of such needs stirred this association a year ago to appoint a committee consisting of Presidents Van Hise and Jesse to draft a memorial to enlarge the function of the Bureau of Education.[15] Without an amendment to the act establishing the Bureau of Education, might it not find authority with comparatively small addition to its expenditures, to act in place of, or in conjunction with, the delegacy above proposed? The law says it shall 'aid the people of the United States in the establishment and maintenance of efficient school systems and otherwise promote the cause of education throughout the country.' Let it federate and coordinate our present school systems. Let it endorse and promulgate national standards. Local systems and institutions would be free to accept them or not; indeed, national inspectors might complement state and institutional inspectors; the national inspectors visiting upon invitation and without authority, as indeed is the case with the majority of state inspectors. The national inspectors could validate the work of local inspectors for remote parts of the country. The individual colleges would upon occasion, now in this, now in that subject, be at liberty, as they now are even in the most highly developed accrediting systems, to give examinations to an entering student.

In fine, the proposals of this paper apply the doctrine of evolution. We grow from the systems we now have. We correlate them. We leave liberty to each institution and group of institutions to favor the system or lack of system it may have. All that is asked is an open-door policy instead of an exclusive one. Ultimately the best system or combination of systems will survive. In the meantime, there will be a germinal genuine American system looking toward a national one in harmony with our new nationalism.

George E. MacLean.
The State University of Iowa.

[14] *Educational Review*, Vol. 21, 1901, p. 528.

[15] *Transactions and Proceedings*, National Association of State Universities of America, 1904, p. 23.

EFFECTIVE PROTECTION FOR THE LOBSTER FISHERY.

The main biological facts concerning the lobster are now well in hand, and form a logical basis for the protection of the fisheries of this animal.

In restricting the size of marketable lobsters the following methods are entitled to consideration by the legislator who regards the question upon its scientific merits alone: (1) partial protection of young and adult, with emphasis upon the young; (2) partial protection of adult and young, with emphasis upon the adult. Such regulations may be supplemented by various other prohibitions, relating to close seasons, the destruction of 'berried' females and the sale