

### HAIL PRINTS AND MUD-CRACKS OF PROTEROZOIC AGE

ON page 679 of the second part (1932) of his "Treatise on Sedimentation," Professor W. H. Twenhofel calls attention to the fact that geologists have neglected to record hail prints in rocks more ancient than the Triassic.

Apparent hail prints, with deep pits and elevations opposite the side of impact, occur in the Proterozoic Beltian rocks of Glacier National Park. They are commonest in the basal (Rising Wolf) and uppermost (Rising Bull) members of the Grinnell formation, in the Bighorn Basin of the Two Medicine Valley, and at the western foot of Gunsight Pass. They also occur in Hole-in-the-Wall and Kintla quartzites in the Boulder Pass district, in the north-western part of the park.

Twenhofel also remarks (page 686) that the commonly assumed three cracks, radiating from a center, seem to be the exception among mud-crack patterns. They are; but such cracks are common in the Rising Bull member in the Two Medicine Valley, and appear in other shallow water formations throughout Glacier National Park, generally being preserved as sand fillings in argillite. We have observed similar cracks in sandy shales of late Medina (Silurian) age in the Niagara Gorge near Lewiston, New York. Specimens are in the collections of the Buffalo Museum of Science.

CARROLL LANE FENTON  
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WEST LIBERTY, IOWA

### THE NEED OF OPPORTUNITY FOR EXCEPTIONAL ABILITY

PROFESSOR L. W. STERN, of the University of Hamburg, president of the German Psychological Association; Professor Gustav Kafka, of the Dresden Institute of Technology, secretary, and Professor David Katz, of the University of Rostock, member of the council, have been compelled by their colleagues to resign offices which indicate the high standing of Jews in the intellectual life of Germany. Professor Felix Krueger, the successor of Wilhelm Wundt at Leipzig, has been elected president of the association, and the place of meeting has been changed from Dresden to Leipzig.

Shortly after the conclusion of the war I wrote to Professor Krueger proposing that the International Congress of Psychology meet in America to mark the friendly relations of the psychologists of the world,<sup>1</sup>

<sup>1</sup> It should be put on record that at a meeting held in Philadelphia in August, 1917, of the Psychology Committee of the National Research Council (which accomplished such useful service for the government during the war) I proposed the following resolution which, as I remember it, was unanimously approved:

but he opposed the plan. The congress was in fact held at Oxford in 1923, it having been the first international congress after the war (though the physiologists met the same summer); Professor Krueger advised German psychologists not to attend. He did not go to the congress held in Copenhagen last summer and refused to invite the next congress to meet at Leipzig; as Professor Köhler did not want us at Berlin, an invitation from Madrid was accepted.

The announcement to members of the German Psychological Association of the meeting to be held in Leipzig in October, signed by Professor Krueger, is more nearly what might be expected in Soviet Russia or in Italy than in Germany. Its rhetoric is not easy to translate, so I quote:

Die Erinnerung an Wilhelm Wundt, den Hundertjährigen, paart sich hierbei mit der Zuversicht, das die deutsche Psychologie in lebensvollem Zusammenhange mit ihrer ruhmreichen Vergangenheit stetig und entschieden vorwärts schreiten wird. An alle Mitglieder richtet der Vorstand die Bitte, sich dahin zu vereinigen, das die Leipziger Tagung einen Verlauf nehme, wie ihn die Würde der Wissenschaft und die hohen Aufgaben unserer Gesellschaft erfordern. Aus den Umwälzungen der gegenwärtigen Zeit soll die *Deutsche Gesellschaft für Psychologie*, durch Gemeinschaftskräfte innerlich verbunden, neu gefestigt hervorgehen.

Die bisher vorgesehenen Sammelreferate bleiben in Kraft. Etwaige Änderungen oder Ergänzungen des übrigen Programms sollen vornehmlich die Richtung auf Fragen der *Persönlichkeitsforschung* nehmen. Zugleich soll die *praktische* Bedeutung der Psychologie für Kernfragen des gegenwärtigen deutschen Lebens gebührend zu ihrem Rechte kommen.

It will be noted that stress is laid on work on the problems of individual differences and on the practical applications of psychology in the service of the new political and social developments in Germany. It is a curious circumstance that I made in Leipzig now nearly fifty years ago the first measurements of individual differences and carried out the first quantitative work in applied psychology. Wundt was so much opposed to these experiments that I could not continue them in his laboratory, but was compelled to purchase the needed apparatus and set it up in my own rooms. As late as 1921 when I wrote to

*Whereas*, the President of the United States has stated that there is no quarrel and should be no ill-feeling between the people of the United States and the people of Germany;

*Resolved*, that the Psychology Committee of the National Research Council places on record its appreciation of the wisdom of the President's expression of good-will. We recognize our obligations to the German universities and to the great men who have led in the development of psychology. We trust that an early peace may be established and that we may soon again be able to cooperate with German and Austrian psychologists in the advancement and in the useful applications of our science.

Professor Krueger in regard to the Psychological Corporation, which we were establishing to advance the applications of psychology and to place research on an economic basis, he objected emphatically to such uses of psychology.

It should, however, be realized that we are not in a position to cast the first stone at our German colleagues. Communists are as anathema here as there. Jews are not treated on terms of equality, either as teachers or as students, in our eastern universities. The president of the largest of them is said to have given the instruction: "Do not exclude any student because he is a Jew, but do not admit any Jew if it can be helped." Twenty years ago I was compelled to resign from the Century Club because I had objected to the exclusion of Jacques Loeb, one of the world's most distinguished biologists. Professor Edwin R. A. Seligman, the prominent economist, had also been blackballed, and there were in addition to Loeb three other members of the National Academy of Sciences ineligible to membership through race. Yet the Century Club has now brought action in the courts to obtain exemption from taxation on the ground that it is not a social club but an institution devoted to literature, art and science.<sup>2</sup>

We have in America a great race, brought here by force and forming 10 per cent. of the population, to which we do not give political, legal, social or economic equality. We are in no position to play the part of Pharisees, but we can try to better the situation by giving opportunity to those of exceptional ability who are unable to continue their work elsewhere. In 1910 (*SCIENCE*, November 4) I wrote:

There were 126 foreign-born men of science on the list of 1903. While the majority came to this country

before attaining scientific reputation, a large number were called from Canada, Great Britain, Germany and other countries to fill positions in our universities, of whom seven were among our leading hundred men of science. The members of this group have added greatly to the scientific strength of the country, not only by the research that they have accomplished, but also because they have brought familiarity with the educational methods of other nations, and high ideals of scholarship and of the dignity of the career of the scientific man and university professor. It is surprising and truly most unfortunate that while nine leading foreign men of science have returned to their native countries during the past seven years, only one has come to America—one scientific man among seven million immigrants. There is no way by which the abundant wealth of the country could be used to greater advantage than by bringing to it men of promise and men of distinction.

Psychologically we seem not to have abundant wealth just now; but materially we are far richer than we were in 1910. The market value of stocks and bonds has increased by billions of dollars in the course of the past couple of weeks. Why not take by taxation one of these billions and endow in perpetuity 5,000 of the ablest scientific men of the world with \$200,000 each? It would be the most profitable investment ever made.

We have fallen from the high estate when our country offered a refuge to the oppressed of all nations. We have not, however, completely forgotten what we owe to Puritans and Quakers, to refugees from Germany as recently as eighty years ago. Can we not now provide for those of exceptional ability who, owing to race or political views, are unable to do at home work of value to the whole world?

J. McKEEN CATTELL

## QUOTATIONS

### THE SITUATION OF JEWISH SCIENTIFIC MEN AND PHYSICIANS IN GERMANY

THE political significance of Nazi revolutionary supremacy under Herr Hitler in Germany is outside our field; but the treatment of the Jewish learned and professional classes stands condemned in the eyes of the intellectual world. It is a relapse to the crass repression of the Germany of Heine's day and the *Judenhetze* of Prussia fifty years ago. An outstanding case is the resignation by Professor James Franck, Nobel prizeman with G. Hertz for physics in 1925, of his chair in experimental physics in the Uni-

<sup>2</sup> This note may go too far in the direction of autobiography, but illustrations can best be drawn from personal experiences, which have not been lacking. When I have been asked by publishing houses to write an autobiography, I have replied that it would give them too many libel suits.

versity of Göttingen. Professor Franck, it is said, probably would have been spared the forced retirement now operative against Jewish officials, including university professors; but he feels that Germans of Jewish descent are being treated as foreigners and foes of the Fatherland, and asks to be released from his office. Professor Franck served with distinction during the war and received the Iron Cross of the First Class. His action follows fittingly on the retirement of Professor A. Einstein from Germany, and is the logical, indeed the only, reply for a man of his standing to the acts by which Jews are being excluded from the liberal professions and debarred from the universities. This is the achievement of a movement which, ever since the war, has sought to mould the German people to one pan-Teutonic pattern—in ac-