

habitants. The system of nomenclature is, therefore, complete and symmetrical.

It is due to the people living among these streams to say that they all understand perfectly, and fully appreciate this system of naming, and, indeed, seem proud of it and anxious to explain it to strangers. So extremely simple is it that even the negro hands use it with perfect accuracy.

It occurred to me that this case might furnish a valuable suggestion to geographical explorers who are constantly called upon to give names to unknown water courses. If, instead of assigning polysyllabic names to all streams, which must be learned by the public as so many independent facts, they would use monosyllabic names for the ultimate tributaries, capable of easy composition with one another, and then designate the successive trunks formed by these tributaries by the compound word formed by their names, a rational system of nomenclature would result which would unite any river system practically under a single name, and still leave not only every tributary but every part of the main stream with a distinctive appellation. I merely throw out the suggestion without attempting here to specify such practical limitations to the general principle as will naturally occur to geographers who might contemplate its actual adoption.

LESTER F. WARD.

RACIAL CHARACTERISTICS OF JEWS.

The Journal of the Anthropological Institute of Great Britain for August brings a discussion on Jewish race characteristics of somewhat unusual interest. The question itself is not a new one, but the mode of presenting it is. The fundamental question involved is: "Is the race of modern Jews a pure one or not?" Hitherto the historical aspect of the problem has almost exclusively been considered in the present discussion. Mr. Joseph Jacobs, B. A., shows that anthropology and anthropometry have a distinct voice in the matter. His paper is equally valuable for the information he sets before us, as for its bearing on the ultimate question.

Mr. Jacobs argues thus: Apart from the historical record of intermixture with foreign people, an indication of the pure or wild origin of the race ought to be attainable from the study of the physiological and psychological traits of the Jews of today. These traits would be included in their (1) *vital statistics* and in their (2) *anthropometry*, or bodily measurement. Having determined in what ways they differ from their neighbors in the above respects, we are met by the important but intricate problem with which Mr. Galton has familiar-

ized the public,—Do these peculiarities point to a racial or a social cause? are they due to differences of 'nature' or of 'nurture'?

There are now living about 7,000,000 Jews; (a)¹ 98.9% of these are Jews both by birth and by religion; (b) 1.1% are Jews by religion only, and (c) 2% by birth only. The last two classes are important anthropologically, but reliable information about them is wanting. In the Jew whom we know, racial and social influences have been working hand in hand, and the problem of separating them is unusually difficult.

From his former studies, Mr. Jacobs takes the following statements: 1. Jews have a less marriage rate, less birth rate (both due largely to the less mortality of Jewish children) and less death rate than their neighbors. 2. They marry earlier. Cousins intermarry more frequently, perhaps three times as often. 3. Jews have larger families, though fewer plural births. Mixed marriages with foreign races are comparatively infertile. 4. Among Jews male births are more frequent, still births and illegitimate births less frequent than in the average population. (Amongst the illegitimate births the proportion of still-births is not less.) 5. Jews have a smaller mortality of children under five. (Not true of Jewish illegitimate children.) Deaths over 60 are more frequent; suicides are less frequent than normally. 6. Their claim to immunity from certain diseases (phthisis, cholera) is doubtful. They are apparently more liable to diabetes and haemorrhoids, and have proportionately more insane, deaf mutes, blind and color-blind. 7. A vast majority live in cities. They have a larger ratio of poor.

Many of these divergences are evidently of social origin, such as the frequency of consanguineous marriages, the smaller proportion of suicides and of illegitimate births. Moreover, the fact that the illegitimate do not share the advantages speaks for the importance of social influences. There remain as probably racial only four biostatistical points. These are 1. the less number of twins and triplets; 2. the infertility of mixed marriages; 3. the greater longevity of Jews; 4. their alleged special liability to disease. Of the causes of (1) we know nothing; (2) is of sufficient importance to merit a review of the evidence on which it rests. In Prussia between 1875 and 1881, 1,676 such mixed marriages resulted in 2,765 children, an average of 1.65 per marriage; while the average for pure Jewish marriages was 4.41,—*nearly three times as great*. In Bavaria (1876-80) 67 such marriages showed an average of 1.1 against 4.7 for pure Jewish mar-

¹This class is formed of (1) *Ashkenazim* or German-Polish Jews, forming 92.8% of the whole, and (2) *Sephardim* or Spanish-Portuguese Jews 6.1%.

riages. The statistics of sterility show a similar result.

The evidence for the greater longevity of Jews is not so unequivocal as is usually supposed. Their insanitary mode of life,¹ weak constitution, greater proportion of men unfit for military service, would not indicate any such advantage. Social influences favoring longevity are their pursuit of rather long-lived trades (tailoring excepted); greater care of Jewish women; the tranquilizing effect of their religion and family life, and so on. Mr. Jacobs does not lay much importance on the effect of the observance of the dietary laws. They do not secure immunity from disease. Finally, their liability to special diseases requires further evidence. Keeping in mind the reciprocal influence between nature and nurture, we can conclude that the biostatistical peculiarities of Jews are social, and only secondarily racial, and 'cannot therefore be adduced to show common origin.' If by 'Jewish' we mean properties due to origin, and by 'Judaic' those due to religion and custom, then their biostatistics is Judaic, not Jewish.

Jews are shortest and narrowest of Europeans (Moyars perhaps are shorter). Their height is 5 ft. 4 in.; girth 31.6 inches. The importance of social influences is seen in the measurement of 130 English Jews of the better class, whose average height was 5 ft. 7 in., and girth 35.2 inches. As to shape of head they are brachycephalic, or short-headed, the cephalic index being 83.4. They have fewer blue and gray-eyed individuals, and more brown and dark-eyed, than their Teutonic neighbors. So also their hair and skin are darker. The

¹Particular reference is here made to their overcrowded life in Ghetti, where 266 houses averaged 29.3 persons per house.

statistics on color-blindness are unanimous, making three Jewish children so afflicted where only two would be found in other races. The common notion as to length of nose is supported by measurements, while that of the thickness of the lips is not.

At the instance of Mr. Jacobs, photographs of boys from the Hebrew free school of London were taken with almost no selection, and from these Mr. Galton prepared composites according to his well-known process. 'They were children of poor parents, dirty little fellows individually, but wonderfully beautiful as I think in the composites,' says Mr. Galton. He adds that they are the best specimens of a composite that he has ever produced. There are two sets of the composites, one giving full face, the other profile views. Two groups of five separate photographs accompany the composites, as also a co-composite of the two composites thus formed. A fourth composite formed from

photographs of Jewish young men is also given. The printing of the components along with the composites makes this contribution to composite photography especially valuable. Of the faithfulness with which they portray the Jewish type there is no doubt. An artist found in one of them a realization of his

ideal of Spinoza when a lad. Mr. Jacobs thinks that here we have the nearest representation of the lad Samuel, or the youthful David. He also identifies the features of the captive Jews of Lachish in the Assyrian *bas-relief* (B. C. 701) with the modern features, thus showing the persistency of the Jewish type. 'If these Jewish lads, selected almost at random and with parents from opposite parts of Europe, yield so markedly individual a type, it



COMPOSITE FROM FIVE PHOTOGRAPHS OF JEWISH BOYS.



THE FIVE COMPONENTS OF THE ABOVE COMPOSITE.

can only be because there actually exists a definite and well-defined organic type of modern Jews.'

A few words as to the characteristics of the face. It is not so much the common notion of the length of nose, as the flexibility of the nostrils that is Jewish; the mouth is large 'with ends well marked and pouting underlip, heavy chin and broad forehead;' 'large brilliant eyes set closely together, with heavy upper and protuberant lower lid, having thoughtful expression in youth, transformed into a keen and penetrating gaze by manhood.'

Considering the question historically, Mr. Jacobs in opposition to Dr. Neubauer whose paper was read just before his own, as also to Renan, holds that the evidence shows in favor of the purity of the race. The main points are these: The foreign element due to proselytism has been exaggerated through neglect of the consideration that only one small class of these—the Proselytes of righteousness had the full *jus connubii*. The strong penalty attached to such marriages in early days, the seclusion in ghettos, the natural aversion on both sides, the existence of the *Cobanim* (about 5% of all the Jews) who could not marry outside the race at all, all tend to reduce the foreign element considerably. Again, in all species the male varies more than the female; when this occurs we probably have a species. Jewesses do vary very slightly as compared with Jews. (Mr. Jacobs suggests a composite of Jewesses). Finally, granted that a certain foreign element is mingled with the race, even as much as 1-10 of the whole number; then owing to the difference in fertility of mixed and purely Jewish marriages, at the end of 200 years the 1-10 would have diminished to 1-50; where the tendency of reversion to the Jewish type has yet to be taken into account. For all these reasons the long-standing belief in the substantial purity of the Jewish race may hold its ground.

J. J.

REFORM IN OUR CALENDAR.

In *l'Astronomie* for August, M. Jules Bonjean discusses proposed changes in our method of reckoning time which would be advantageous. He would leave the seven-day week and the 365 or 366-day year of the Gregorian calendar as they are now; but he takes strong ground—and in this all can sympathize with him—against the present arbitrary and inconvenient grouping of days into months. He would reform it by making January have 30 days, February 31, March 30, and so alternating through the year till December, this month having 30 days in the ordinary year of 365, and 31 in leap year. No one can dispute the much greater simplicity and convenience of this. Then he would

always have the year begin on Sunday, and in consequence have an extra Sunday, or a holiday, for the 365th day, and in leap year two of them. He argues in favor of thus having the same day of any particular month always come on the same day of the week, and also having an extra day—and, once in four years, two—come during the world-wide period of festivities attending the Christmas and New-year holidays. There can be no question that some such plan would possess many advantages over the present arrangement. Of course it does away with the week as a continuously periodic measure of time, but practically it is never used for that either in civil or astronomical reckoning, but simply for the temporarily recurring period of rest or religious observances, and for this a break once per year is of no importance.

There is one point, however, in which it seems, to the writer, that M. Bonjean's plan might be slightly improved. Respect for religious observances would, no doubt, demand, throughout the greater part of the civilized world, that there should be 52 Sabbaths in the year; and such observance of Sunday as the first day of the year might clash with the peculiar social or civil ceremonies which either already, or in future might, very appropriately belong to the opening day of the new year. It would seem more appropriate to have New-year's day a world-wide holiday, to be celebrated by each nation as suited it the best, and then let Sunday, the New-year Sabbath, fall on January 2. The relative merits of the two plans are best seen below, where the 12 or 13 days at the end of the old and at the beginning of the new years are arranged with the two plans side by side, the two middle columns of dates referring to either one:

Bonjean's Plan.		Day of the year.	Day of the Month.	2d Proposed Plan.	
Holiday season.	Saturday	357	Dec. 22	Friday	Holiday season.
	Sunday	358	" 23	Saturday	
	Monday	359	" 24	Sunday	
	Tuesday	360	" 25	Monday	
	Wednesday	361	" 26	Tuesday	
	Thursday	362	" 27	Wednesday	
	Friday	363	" 28	Thursday	
	Saturday	364	" 29	Friday	
	Annual holiday	365	" 30	Saturday	
	Leap-year holiday	366	" 31	Leap-year holiday	
	Sunday and New-yr day	1	Jan. 1	New-year holiday	
	Monday, 1st business day	2	" 2	Sunday, New-year Sabbath	
	Tuesday	3	" 3	Monday, 1st business day	

With such a change in the calendar we can have a regular annual Christmas Saturday, Sunday, and Monday. Saturday for shopping, Sunday for the churches, and Monday for Christmas trees and giving of presents. Our own national holidays of February 22 and July 4 would fall, in M. Bonjean's plan, on Tuesday and Thursday respectively, and in the second plan upon Monday and Wednesday.

H. M. PAUL.