

repute, like Julian Huxley and Teilhard, have indulged in such kind of "tour de force" leading to speculations, gloomy or radiant, as the case may be. Monod, too, starting from a "series of unrelated actions which become his (Sisyphus-man's) fate" eventually throws open the gates of the Kingdom of the Spirit "present within us." With this, the Manichaeian division of the world is complete. Necessity may well be of two kinds as the fine distinction by the ancient Hellenes between *ananke* and *moira* suggests. On the one hand, there is the ironclad necessity of the orthodox Darwinians and Marxist ideologists as invoked by Friedrich Engels, the co-author of the Communist Manifesto, in his *Dialectics of Nature*. On the other hand, there is a necessity related to what is commonly called Destiny which may be taken as a synonym for the hereditary continuum. No man will like the idea of being a slave, either of his genes, or of his environment, or a slave of a transcendental Deity reigning with terror. For Western man, in particular, worshipping and being a slave are very different things. His attitude, though recognizing Destiny as a power to which even the Gods are subject—as evidenced in the classic Greek tragedy—nevertheless requires standing up in the face of a merciless Fate. "This above all: to thine own self be true." (Hamlet I, 3).

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The Anthropology of the Aunjetitz Population of Tomice, Poland*

By BRUNON MISZKIEWICZ

INTRODUCTION

In the spring of 1965 a farmer in the course of plowing came across countless broken pieces of pottery and numerous bones in the vicinity of the village of Tomice in the Dzierzoniow region of Poland. This is about 40 miles south of the Polish city of Wroclaw (formerly Breslau). The farmer immediately reported his find to the Conservator of Archaeology and to the Anthropological Institute in Wroclaw.

After thorough investigation of the pottery, systematic excavations of the site were conducted in the summer months of the years 1966, 1967 and 1968 under the direction of the author of this article. We came upon extensive Neolithic settlements, inhumation—and cremation—graves of the Early Bronze Age (Aunjetitz Culture), cremation-graves of the Lausitz Culture, as well as Early Medieval skeletal material (probably dating from the ninth to eleventh centuries A.D.) at the Tomice site. In this article only the Aunjetitz skeletal material is considered and an anthropological analysis is undertaken.

The material find comprised 37 inhumation and three cremation burials of both sexes and various ages—adults and children (see Tables 1 and 2). Without doubt we are working here with a continuous Aunjetitz burial enclosure. Furthermore, it is one of the largest which has been discovered in the Lower Silesian region in the past 25 years.

The grave enclosures themselves consisted of wide, almost square, burial pits, into which the dead were interred in an extreme flexed position lying on the right side. The bodies are orientated in south-north direction, with the cranium to the south and the face to the east (Figures 1 and 2). The depth of the graves varied from 0.25 to 1.20 metres.

All the body skeletons were relatively well preserved. The crania, in contrast, were in a somewhat poorer state of preservation. This is probably the result of damage in the course of deep plowing. The state of preservation of bones depends essentially upon the existing soil structure and upon the minerals found in the soil. In Tomice the soil consists predominantly of

*"Die Aunjetitzer Bevölkerung aus Tomice, Kr. Dzierzoniow", *Homo*, Vol. XXIII, No. 1-2, 1972, pp. 145-154. Translated from the German by Donald A. Swan.

TABLE 1

State of preservation of the skeletal material from the Early Bronze Age site (Aunjetitz Culture) of Tomice, Poland—distributed according to sex and age

Skeleton number	Grave number	State of preservation		Sex	Age
		Cranium	Skeleton		
1	70a	Fragmentary	Fragmentary	?	Inf. I (a few days)
2	55	Fragmentary	A few remains	?	Inf. I (6-8 months)
3	62	Very poor	Poor	?	Inf. I (1 year)
4	II	A few remains	A few remains	?	Inf. I (1 year)
5	III	A few remains	A few remains	?	Inf. I (1 year)
6	"B"	A few remains	A few remains	?	Inf. I (3 years)
7	46	Good (complete)	Poor	?	Inf. I (3-4 years)
8	"A"	A few remains	A few remains	?	Inf. I (3-5 years)
9	4	Medium	Medium	F (?)	Inf. I (3-4 years)
10	66	Good (complete)	Fragmentary	?	Inf. (6-7 years)
11	31	Fragmentary	Fragmentary	F	Inf. II (10 years)
12	9	Good (complete)	Poor	F	Inf. II (8-10 years)
13	7	Good (complete)	Good (complete)	F	Juv. (15-17 years)
14	3	Very poor	Good (complete)	F	Juv. (17-20 years)
15	45	Very poor	Poor	F	Juv. (17-20 years)
16	75	Good (complete)	Good (complete)	F	Juv. (20 years)
17	17	Fragmentary	Good (complete)	F	Juv. (20 years)
18	70	Medium	Medium	F	Adult (22-25 years)
19	40	Fragmentary	Fragmentary	F	Adult (23-25 years)
20	61	Good (complete)	Good (complete)	F	Adult (22-25 years)
21	1	Fragmentary	Poor	F	Adult (25 years)
22	69	No remains	Medium	F	Adult (25 years)
23	I	Fragmentary	Fragmentary	F	Adult (25 years)
24	"C"	No remains	Fragmentary	F	Adult (25-28 years)
25	52	Fragmentary	Fragmentary	F	Mature (40 years)
26	53	Good (complete)	Good (complete)	M	Juv. (17-18 years)
27	68	Medium	Medium	M	Adult (25-28 years)
28	2	Fragmentary	Good (complete)	M	Adult (25-30 years)
29	34	Good (complete)	Good (complete)	M	Adult (28-30 years)
30	10	Very poor	Good (complete)	M	Adult (30 years)
31	18	Fragmentary	Good (complete)	M	Adult (30-32 years)
32	24	Fragmentary	Medium	M	Adult (30-32 years)
33	27	Fragmentary	Fragmentary	M	Adult (30-32 years)
34	29	Fragmentary	Fragmentary	M	Adult (30-33 years)
35	6	Good (complete)	Good (complete)	M	Adult (30-36 years)
36	76	Very poor	Weak	M	Adult (30-36 years)
37	11	Fragmentary	Fragmentary	M	Mature (35-40 years)
38	32	Very poor	Medium	M	Mature (40-45 years)
39	30a	No remains	Fragmentary	M	Mature (30-35 years)
40	"D"	A few remains	A few remains	?	Adult (?)

TABLE 2

Age distribution of the Early Bronze Age population from Tomice

Sex	Inf. I	Inf. II	Juvenile	Adult	Mature
Male	—	—	1	10	3
Female	1	2	5	7	1
Undetermined	9	—	—	1	—
Total (N = 40)	Inf. I + Inf. II + Juv. (N = 18)			Adult + Mature (N = 22)	
	45 per cent			55 per cent	



Figure 1—Juvenile female skeleton (about 17 to 20 years old) of the Aunjetitz population from Tomice (Grave 45).

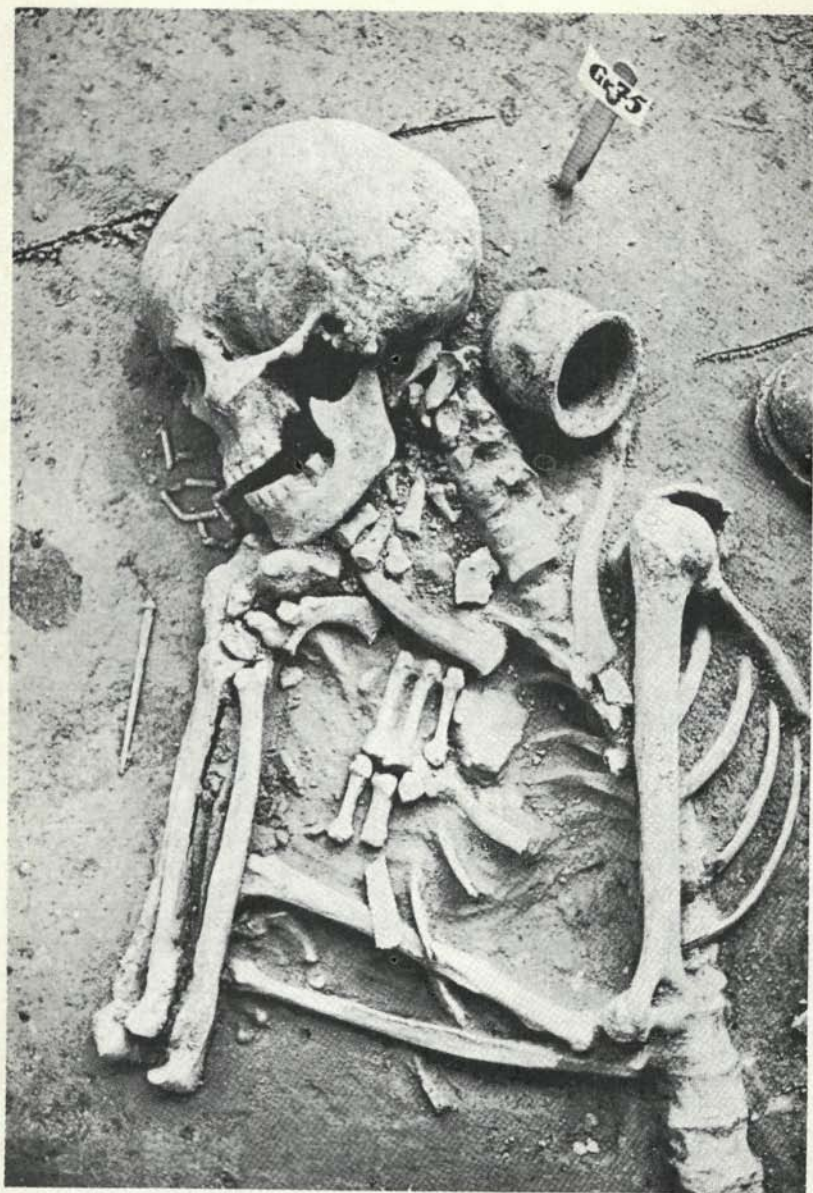


Figure 2—Juvenile female skeleton (about 20 years old) of the Aunjetitz population from Tomice (Grave 75).

firm, airy and permeable *loess*. Consequently, the bones are all strongly mineralized.

The graves were richly furnished throughout with grave-goods and other items. These included ceramic pottery (some 70 dishes and beakers), animal bones, bone tools (awls, needles), as well as long bronze needles with compressed and perforated stems, spiral ornaments, beads, rings and arm-rings (altogether some 60 ornament-objects). It is noteworthy that the metal grave-goods were found exclusively in the graves of the women and children (in addition to the usual inventory of ceramic pottery and animal bones).

Among the 40 excavated graves, three are found to be double-burials. One of these was the grave of an older man buried together with a younger woman. The other two were burials of a young woman with a small child (infant). On the basis of this mode of interment, it appears that mother and child stood in high esteem in the Aunjetitz group.

All grave-goods are typical for the Aunjetitz Culture. These goods appear familiarly in Bohemia, Moravia, Lower Austria, Silesia, and Central Germany. They are partly derived from the Tószeg (Nagyrév) Culture. However, they are partly the perfection of their own cultural capabilities, with the exploitation of the ore deposits in their region. On the other hand, a Western influence is also evident. Hence, the Aunjetitz Culture stands between the Balkan and the Western Cultures of the beginning Bronze Age.

MATERIAL AND METHODOLOGY

The skeletal material was analyzed and morphologically described according to the standard measuring techniques of Rudolph Martin. This included both the crania and the long bones. For the typological analysis, Wanke's (1955) approximation procedure, with the anthropological constants calculated by Kóčka, was employed in addition to the morphological method. In this case the five principal anthropological elements, with their total combinations, which are generally known and defined in the Central European region are brought into consideration—Nordic (a), Mediterranean (e), Armenoid (h), Lapponoid (l), and Palaeo-Europid (p).

Table 2 provides information about the age distribution of the Tomice skeletal material. The age classifications—Infantile I, Infantile II, and Juvenile—were determined according to the scale of J. Gagnon and M. Bahador. The average age (mean value) in the case of the Aunjetitz population from Tomice amounts to 26 years for the two sexes taken together. For the men the average age is 31 years, while for the women it is 20 years. In comparison to other populations of the early Bronze Age, the average age of the Tomice Aunjetitz population is somewhat higher. However,

this may be a result of the relatively small number of individuals in the sample. In addition, the age data of different authors are not always comparable, with some investigators excluding the children, for example.

In our Tomice Aunjetitz population, the Infantile II and the Juvenile groups are weakly represented, while the very old are completely lacking. The death rate of the former amounted to some 45 per cent of the total population (due to more difficult environmental conditions, hygienic deficiency and so on), while that of the adults was 55 per cent. Thus, the adult group is most strongly represented in the Polish Aunjetitz population. It seems doubtful whether we are dealing with a representative population sample in our tabulation. The data should make possible, however, an approximate survey, especially in comparison with the more recent data from Vallois (1960) concerning death rates in prehistoric populations (see Table 3).

TABLE 3
*Percentage distribution of age at death in
eight prehistoric populations*

<i>Prehistoric population</i>	<i>Inf. I & II</i>	<i>Juvenile</i>	<i>Adult & Mature</i>
1. Neanderthals (N = 39)	38.5	10.3	51.2
2. Upper Palaeolithic (N = 76)	38.2	16.0	45.8
3. Mesolithic (N = 71)	29.5	8.5	62.0
4. Silesian Neolithic (N = 84)	29.7	5.7	64.6
5. Silesian Aunjetitz Culture (N = 40)	30.0	15.0	55.0
6. Halimba-Czeres: 9-12th century A.D. (N = 932)	33.1	8.5	58.4
7. Reckahn: 12-14th century A.D. (N = 270)	28.2	18.9	52.9
8. Opole: 13-14th century A.D. (N = 45)	33.3	6.7	60.0

STATURE

The stature of the Tomice Aunjetitz population was calculated from the long bones. For the men the method of Breitingner (1937) was employed, while for the women that of Bach (1965) was used. The male sample comprised seven, the female eight. In part the stature could also be calculated from the cross-section of the condyle radius according to the formula of Müller (1958-59). The formula was employed with seven male and six female skeletal remains.

The average stature of the Aunjetitz population from Tomice, Poland, is medium-large. In the case of the men it amounts to 163.0 cm. (N = 9), while for the women it is 157.7 cm. (N = 9). From a morphological viewpoint, the bone structure of the women is more gracile. In contrast, that of the men is more powerful. This difference may possibly be the result of an organized division

of labor by sex, with the male population performing the heavier physical labor. On the other hand, aside from genetic factors, stature depends upon the actual racial structure of the individuals.

The calculated statures of the Tomice Aunjetitz population—especially that of the men—differ from the estimates made for stature of the Aunjetitz population of Czechoslovakia. The medium height of the men from Tomice is most similar to that of the men from the Late Phase of the Czechoslovakian Aunjetitz Culture. In comparison, the mean stature of the Tomice women is virtually identical with that of the Early Phase of the Czechoslovakian Aunjetitz Culture. It can generally be established that the male series for stature differ among themselves more sharply than the female series.

TABLE 4

Comparison of the mean stature of the Aunjetitz population from Tomice to that of the Aunjetitz population from Czechoslovakia

<i>Aunjetitz group</i>	<i>Mean male stature</i>		<i>Mean female stature</i>	
	<i>No.</i>	<i>(in cm.)</i>	<i>No.</i>	<i>(in cm.)</i>
1. Aunjetitz Culture—Tomice, Poland	9	163.0	9	157.7
2. Early Aunjetitz Culture—Czechoslovakia	12	172.3	5	157.0
3. Classic Aunjetitz Culture—Czechoslovakia	14	169.3	6	163.2
4. Late Aunjetitz Culture—Czechoslovakia	7	166.3	1	162.0
5. Total Aunjetitz Culture—Czechoslovakia	33	169.9	12	159.8

TYOLOGICAL CHARACTERISTICS OF THE POLISH AUNJETITZ POPULATION

Ten crania—five male and five female—were suitable for typological (racial) analysis. In some cases the individual measurements on the skull were taken *in situ*, in order to prevent the loss of worthwhile material through eventual further damage. The calculated indices and the typological classification, according to Wanke's approximation procedure, are presented in Table 5 and Table 6. The mean values of the anthropological indices for the two sexes combined are listed in Table 7. In the case of the female indices, a correction was undertaken in order to adjust for the sexual dimorphism.

The male as well as the female Aunjetitz crania are characterized as follows: they are long, medium-high, with a narrow face, a medium-wide nose, and medium-high orbits. This trait-complex, together with the morphological traits, indicates a north-western combination—i.e., Nordic-Mediterranean (ea)—for the Polish Aunjetitz population. The results of the typological analysis are presented in Table 8.

TABLE 5
Anthropological indices of the Aunjetitz skeletal material from Tomice

<i>Skeleton Number</i>	<i>Length-breadth index</i>	<i>Upper facial index</i>	<i>Nasal index</i>	<i>Orbital index</i>	<i>Height index</i>
13	60.0	54.5	53.5	85.0	—
15	74.0	—	42.6	82.4	—
16	63.2	56.0	41.7	81.1	85.8
20	73.1	59.7	48.0	81.1	84.7
18	63.0	49.2	44.2	—	—
27	69.8	—	—	76.7	—
26	77.2	—	50.0	76.3	—
39	71.0	57.5	44.2	76.2	74.9
20	65.7	50.0	47.9	77.5	—
35	69.5	61.7	47.1	86.5	78.0

TABLE 6
Individual typological analysis of the Aunjetitz skeletal material from Tomice

<i>Skeleton number</i>	<i>Nordic % a</i>	<i>Mediterranean % e</i>	<i>Armenoid % h</i>	<i>Lapponoid % l</i>	<i>Palaeo-Europid % p</i>	<i>Race type</i>
13	49.7	28.1	6.4	7.7	8.2	ae
15	65.4	26.3	4.2	2.4	1.7	ae
16	0.4	98.8	0.2	0.1	0.2	e
20	4.1	90.0	2.2	1.9	1.8	e
18	30.3	58.7	3.1	3.0	5.0	ea
27	1.3	94.0	0.3	0.5	4.5	e
26	13.4	22.7	10.3	32.8	20.8	lep
39	31.0	43.3	9.4	9.0	7.3	ea
20	13.7	67.4	3.4	4.6	10.8	eap
35	73.4	15.7	4.5	3.7	2.7	ae

TABLE 7
Arithmetic mean values of the anthropological indices of the Aunjetitz skeletal material from Tomice

<i>Anthropological index</i>	<i>Number of crania</i>	<i>Males and females</i>
1. Length-breadth index	10	68.7
2. Upper facial index (Kollmann)	7	55.9
3. Nasal index	9	46.7
4. Orbital index	9	80.3
5. Height index (Hrdlicka-Kocka)	4	80.9

TABLE 8
*Typological composition of the total Aunjetitz population
from Tomice*

<i>Anthropological elements</i>	<i>Anthropological structure— males and females</i>	
	<i>From the Mean Values</i>	<i>From Individual Analysis</i>
1. Nordic (a)	22.4%	28.3%
2. Mediterranean (e)	66.0%	54.0%
3. Armenoid (h)	3.7%	4.4%
4. Lapponoid (l)	3.6%	6.7%
5. Palaeo-Europid (p)	4.2%	6.4%
Total	99.9%	99.8%

In the total anthropological composition of the Polish Aunjetitz population, the Mediterranean racial element (e) strongly predominates, while the Nordic racial element (a) stands in second place. The three last racial elements—Armenoid (h), Lapponoid (l), and Palaeo-Europid (p)—play no essential rôle in the composition of the Aunjetitz population. The three elements together total on the average about 15 per cent.

For comparative purposes the mean values of five anthropological indices for Aunjetitz crania from Poland, Czechoslovakia (divided into three time periods), and Germany are presented in Table 9. From this grouping it can be seen that the Aunjetitz population from Tomice has a somewhat narrower face and higher orbits than the other Aunjetitz populations. The greatest difference, however, occurs in cranial height, which on average is some six units smaller than that of the Aunjetitz populations from Czechoslovakia.

Consequently, there are distinct differences in the racial structure of the various Aunjetitz populations. The anthropological composition of the three stages of the Aunjetitz Cultures from Czechoslovakia, as calculated by Chochol (1964), is presented in Table 10.

According to Chochol's data, the Nordic and Lapponoid anthropological elements are completely missing from the Czechoslovakian Aunjetitz populations. However, Chochol used a morphological analysis, which differed methodologically from our procedure. We also employed Wanke's approximation procedure to Chochol's data. By our method we obtained an essential Lapponoid component (about 15 per cent) and, to a lesser degree, Nordic admixture (about 8 per cent). Stocký (1931) had earlier maintained that in all Aunjetitz cultural stages the Mediterranean element amounts to about 80 per cent. However, this appears improbable.

The Aunjetitz population from Tomice deviates considerably in its anthropological structure from the comparable Aunjetitz

TABLE 9

Arithmetic mean values of five anthropological indices for Aunjetitz cranial series from Czechoslovakia, Germany and Poland

<i>Anthropological indices</i>	<i>Early Aunjetitz (Czechoslovakia)</i>		<i>Classic Aunjetitz (Czechoslovakia)</i>		<i>Late Aunjetitz (Czechoslovakia)</i>		<i>Total Aunjetitz (Czechoslovakia)</i>		<i>Aunjetitz (Germany)</i>	<i>Aunjetitz (Poland)</i>
	Male N=12	Female N=5	Male N=14	Female N=6	Male N=7	Female N=1	Male N=33	Female N=12		
1. Length-breadth index	70.1	74.5	72.8	72.4	69.2	79.4	71.0	74.0	69.6	N=10 68.7
2. Upper facial index (Kollmann)	52.0	54.2	53.1	49.2	54.2	55.2	53.0	52.5	54.8	55.9
3. Nasal index	49.3	52.6	48.0	60.4	50.0	49.0	48.9	55.4	47.8	46.7
4. Orbital index	74.8	78.5	77.8	74.3	82.1	79.5	77.7	77.1	78.2	80.3
5. Height index (Hrdlicka-Kocka)	—	—	—	—	—	—	87.3	87.8	—	80.9

TABLE 10

Anthropological composition of the Aunjetitz skeletal material from Czechoslovakia (Chochol, 1964)

<i>Anthropological elements</i>	<i>Early Aunjetitz</i>		<i>Classic Aunjetitz</i>		<i>Late Aunjetitz</i>	
1. Mediterranean (e)	50.0%		55.0%		55.0%	
2. Palaeo-European (p)	35.0%		25.0%		35.0%	
3. Armenoid (h)	15.0%		20.0%		10.0%	
Total	100.0%		100.0%		100.0%	

series from Czechoslovakia. It can be assumed that population groups from Czechoslovakia moved into the Lower Silesian region in the late stage of the Aunjetitz Culture. They brought with them chiefly Mediterranean and Palaeo-Europid traits. In the Lower Silesian region the migrants met with the autochthonous population. These people were probably the descendants of the Bell-Beaker Culture and the Corded-ceramic Culture, and also the Band-ceramic Culture. From the last cultural group the Lapponoid element on a Ugro-Finnish base is derived. It should be noted that the population of Central Europe during the Bell-Beaker Culture and the Bronze Age still showed a typically Alpine structure. Therefore, it seems as if the population from Czechoslovakia still bore the archaic Aunjetitz form-structure.

In so far as observations about the anthropological structure in the Lower Silesian region are representative, one can see in this structure a certain starting-form (*Ausgangsform*) which leads to the typical later West Slavs. Thus, we find a resemblance between the Bronze Age Aunjetitz population from Tomice and the Early Medieval population from Tomice. However, to clarify further this question, additional excavation and studies are required.

SUMMARY

The skeletal remains from 37 graves, including three double-burials, in Tomice, belonging to the Bronze Age Aunjetitz Culture were anthropologically investigated. Of the 40 burials 18, or 45 per cent, were of children or juveniles. The mean stature of nine males was calculated to be 163 cm. and that of nine females to be 157.7 cm. (Breitinger/Bach method). These values are below the average for Aunjetitz populations. The typological analysis (Wanke's method) shows a preponderance of Nordic and Mediterranean racial elements.

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In Praise of Poetry

(With respects to Sir Philip Sidney and Shelley)

By DESMOND TARRANT

It is the worshippers of beauty, after all, who
have done the real pioneer work of the world.

Henry David Thoreau (1817-1862).

Only recently has man's frame of reference become large enough to assess the last enemy other than subjectively. The aim of this brief essay is to try to place age-old subjective insights within the new objective, empirical frame of reference. The spiritual findings of such as Sidney and Shelley—which reflect a primordial cumulative heritage—receive abundant confirmation. But now they can be expressed as hypotheses with tangible evidence for verification. This process should make them eventually as irrefutable as the boiling temperature of water. As scientific hypotheses can be verified by repeated experiments, so the spiritual hypotheses may be verified by repeated experience.

Astronomers, such as Fred Hoyle, tell us that in the beginning there was nothing but very thinly spread atoms and simple molecules comprising largely hydrogen. Out of this was to come everything else—including men and machines. This thin gas seems to be the nearest we can approach the Creator physically. But, of course, it is everywhere. Its composition is now considered to be mostly hydrogen, helium, some carbon, nitrogen, oxygen and a few metals. These are the raw materials on the many benches which are the galaxies of the workshop of the universe itself.

However, for about every cubic mile of this gas exist about one thousand particles of cosmic dust. This dust is not spread evenly but concentrated here and there in clouds. Each cloud has enough material to produce about 400 stars like the sun. This original matter has become the matter with us. Etymological significances of the word matter or material are Latin *mater* and Greek *meter* meaning mother. So with this matter we have the body of the universe. Einstein's theory of relativity seems to confirm that the universe is indeed one verse; the meter is inherent in the motion. Here is the body from which all offspring must come.

The offspring must come because this body is in motion and has intercourse with a charge. This charge or magnetic field is vital. It aligns the dust particles, thus giving direction. Its origin is still unknown. Here we again seem to be as physically near the Creator as we can come. This union of magnetism, motion, and matter involving needle-like dust particles anticipates the