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The TISSUE-CULTURE KING

By Julian Huxley

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"I thought I would see whether art could not improve upon nature, and set myself to re-creating experimental embryology within the plasticity of the earliest stages to give double-

headed and octopus-like creatures. But my specialities are three-headed snakes, and heads with an extra locomotory leg head." Macanabe called it "House of the Living Fossil."



had been for three days engaged in crossing a swamp. At last we were out on dry ground, winding up a gentle slope. Near the top the brush grew thicker. The look of a rampart grew as we approached; it had the air of having been deliberately planted by men. We did not wish to have to hack our way through the spiky hardside, so turned to the right along the front of the green wall. After three or four hundred yards we came on a clearing which led into the bush, narrowing

down to what seemed a regular passage or track-way. This made us a little suspicious. However, I thought we had better make all the progress we could, and so ordered the caravans to turn into the opening, myself taking second place behind the guide.

Suddenly the tracker stopped with a guttural exclamation. I looked, and there was one of the great African toads, hopping with a certain ponderosity across the path. But it had a second head growing upwards from its shoulders! I had never seen anything like this before, and wanted to secure such a remarkable monstrosity for our collections;

but as I moved forward, the creature took a couple of hops into the shelter of the prickly scrub.

We pushed on, and I became convinced that the gap we were following was artificial. After a little, a droning sound came to our ears, which we very soon set down as that of a human voice. The party was halted, and I crept forward with the guide. Peeping through the last screen of brush we looked down into a hollow and were immeasurably startled at what we saw there. The voice proceeded from an enormous negro man at least eight feet high,

the biggest man I had ever seen outside a circus.

was squatting, from time to time prostrating the forepart of his body, and reciting some prayer or incantation. The object of his devotion was before him on the ground; it was a small flat piece of glass held on a little carved ebony stand. By his side was a huge spear, together with a painted basket with a lid.

After a minute or so, the giant bowed down in silence, then took up the ebony-and-glass object and placed it in the basket. Then to my utter amazement he drew out a two-headed toad like the first I had seen, but in a cage of woven grass, placed it

THAT a derisive Africa story could contain a wondrous assortment of events and adventures all rolled into one, you would scarcely believe possible, yet that is exactly what Julian Huxley, grandson of Thomas Henry Huxley famous English scientist, and himself Professor of Zoology in King's College, London, gives us here. While so far science does not countenance telepathy, no real thought transference having ever been proved, that does not mean to say that it never will be achieved. Amazing Stories' later magazine, Science and Invention, has a startling hint of \$1,000 for an actual proof of telepathy, which so far has never been claimed. Just the same, under 10,000 years hence the human race may have progressed far enough to make telepathy a reality.

on the ground, and proceeded to more genuflection and ritual murmurings. As soon as this was over, the load was replaced, and the squatting giant tranquilly regarded the landscape.

Beyond the hollow or dell lay an undulating country, with clumps of bush. A sound in the middle distance attracted attention; glimpses of color moved through the scrub; and a party of three or four dozen men were seen approaching, most of them as gigantic as our first acquaintance. All marched in order, armed with great spears, and wearing colored loin straps with a sort of apron, it seemed, in front. They were preceded by an intelligent-looking negro of ordinary stature armed with a club, and accompanied by two figures more remarkable than the giants. They were under-armed, almost dwarfish, with huge heads, and enormously fat and brawny both in face and body. They wore bright yellow cloaks over their black shoulders.

At sight of them, our giant rose and stood stiffly by the side of his basket. The party approached and halted. Some order was given, a giant stepped out from the ranks towards us, picked up the basket, handed it stiffly to the newcomer, and fell into place in the little company. We were clearly witnessing some regular routine of relieving guard, and I was racking my brains to think what the whole thing might signify—guards, giants, dwarfs, beads—when to my dismay I heard an exclamation at my shoulder.

It was one of those damned porters, a confounded fellow who always liked to show his independence. Bored with waiting, I suppose, he had self-importantly crept up to see what it was all about, and the sudden sight of the company of giants had been too much for his nerves. I made a signal to be quiet, but it was too late. The exclamation had been heard; the leader gave a quick command, and the giants rushed up and out in two groups to surround us.

Violence and resistance were clearly out of the question. With my heart in my mouth, but with as much dignity as I could muster, I jumped up and threw out my empty hands, at the same time telling the tracker not to shoot. A dozen spears seemed towering over me, but none were launched; the leader ran up the slope and gave a command. Two giants came up and put my hands through their arms. The tracker and the porter were herded in front at the spear point. The other porters now discovered there was something amiss, and began to shout and run away, with half the spearmen after them. We three were gently but firmly marched down and across the hollow.

I understood nothing of the language, and called to my tracker to try his hand. It turned out that there was some dialect of which he had a little understanding, and we could learn nothing save the fact that we were being taken to some superior authority.

For two days we were marched through pleasant park-like country, with villages at intervals. Every now and then some new monstrosity in the shape of a dwarf or an incredibly fat woman or a two-headed animal would be visible, until I thought I had stumbled on the original source of supply of circus freaks.

The country at last began to slope gently down to a pleasant river-valley; and presently we neared the capital. It turned out to be a really large town for Africa, its mud walls of strangely impressive architectural form, with their heavy, slabby buttresses, and giants standing guard upon them. Seeing us approach, they shouted, and a crowd poured out of the nearest gate. My God, what a crowd! I was getting used to giants by this time, but here was a regular Barnum and Bailey show; more semi-dwarfs; others like them but more so—one could not tell whether the creatures were precociously mature children or horribly stunted adults; others portentously fat, with arms like sooty legs of rust-iron, and rolls and volutes of fat oozing out of their stumpy, spiny posterior; still others precociously scrawny and wizened, others hateful and imbecile in looks. Of course, there were plenty of ordinary negroes too, but enough of the extraordinary to make one feel pretty queer. Soon after we got inside, I suddenly noted something else which appeared inexplicable—a telephone wire, with perfectly good insulators, running across from tree to tree. A telephone—in an unknown African town. I gave it up.

BUT another surprise was in store for me. I saw a figure pass across from one large building to another—a figure unmistakably that of a white man. In the first place, it was wearing white duds and sun helmet; in the second, it had a pale face.

He turned at the sound of our cowls and stood looking a moment; then walked towards us.

"Hallo!" I shouted. "Do you speak English?"

"Yes," he answered, "but keep quiet a moment," and began talking quickly to our leaders, who treated him with the greatest deference. He dropped back to me and spoke rapidly: "You are to be taken into the council hall to be examined; but I will see to it that no harm comes to you. This is a forbidden land to strangers, and you must be prepared to be held up for a time. You will be sent down to see me in the temple buildings as soon as the formalities are over, and I'll explain things. They want a bit of explaining," he added with a dry laugh. "By the way, my name is Hascombe, lately research worker at Middlesex Hospital, now religious adviser to His Majesty King Ngoba." He laughed again and pushed ahead. He was an interesting figure—perhaps fifty years old, spare body, thin face, with a small beard, and rather sunken, hazel eyes. As for his expression, he looked cynical, but also as if he were interested in life.

By this time we were at the entrance to the hall. Our giants formed up outside, with my men behind them, and only I and the leader passed in. The examination was purely formal, and remarkable chiefly for the ritual and solemnity which characterized all the actions of the couple of dozen fine-looking men in long robes who were our examiners. My men were herded off to some compound. I was escorted down to a little hut, furnished with some attempt at European style, where I found Hascombe.

As soon as we were alone I was after him with my questions. "Now you can tell me. Where are we? What is the meaning of all this circus busi-

ness and this mania for microscopies? And how do you come here?" He cut me short. "It's a long story, so let me save time by telling it my own way."

I am not going to tell it as he told it; but will try to give a more connected account, the result of many later talks with him, and of my own observations.

Hascombe had been a medical student of great promise; and after his degree had launched out into research. He had first started on parasitic protozoa, but had given that up in favor of tissue culture; from those he had gone off to cancer research, and from that to a study of developmental physiology. Later a Big Commission on sleeping sickness had been organized, and Hascombe, restless and eager for travel, had pulled wires and got himself appointed as one of the scientific staff sent to Africa. He was much impressed with the view that wild game acted as a reservoir for the *Trypanosoma gambiense*. When he learned of the extensive migrations of game, he saw here an important possible means of spreading the disease and asked leave to go up country to investigate the whole problem. When the Commission as a whole had finished its work, he was allowed to stay in Africa with one other white man and a company of porters to see what he could discover. His white companion was a laboratory technician, a taciturn non-commissioned officer of science called Aggers.

There is no object in telling of their experiences here. Suffice it that they lost their way and fell into the hands of this same tribe. That was fifteen years ago; and Aggers was now long dead—as the result of a wound inflicted when he was caught, after a couple of years, trying to escape.

On their capture, they too had been examined in the council chamber, and Hascombe (who had interested himself in a dilettante way in anthropology as in most other subjects of scientific inquiry) was much impressed by what he described as the exceedingly religious atmosphere. Everything was done with an elaboration of ceremony; the chief seemed more priest than king, and performed various rites at intervals, and priests were busy at some sort of altar the whole time. Among other things, he noticed that one of their rites was connected with blood. First the chief and then the councillors were in turn requisitioned for a drop of vital fluid pricked from their finger-tips, and the mixture, held in a little vessel, was slowly evaporated over a flame.

Some of Hascombe's men spoke a dialect not unlike that of their captors, and one was acting as interpreter. Things did not look too favorable. The country was a "holy place," it seemed, and the tribe a "holy race." Other Africans who trespassed there, if not killed, were enslaved, but for the most part they let well alone, and did not trespass. White men they had heard of, but never seen till now, and the debate was what to do—do kill, let go, or enslave? To let them go was contrary to all their principles: the holy place would be defiled if the news of it were spread abroad. To enslave them—yes, but what were they good for? and the Council seemed to feel an instinctive dislike for these other-colored creatures. Hascombe had an idea. He turned to the interpreter. "Say this: 'You rever-

the blood. So do we white men; but we do more—we can render visible the blood's hidden nature and reality, and with permission I will show this great magic.'" He beckoned to the bearer who carried his precious microscope, set it up, drew a drop of blood from the tip of his finger with his knife, and mounted it on a slide under a cover-slip. The big-wigs were obviously interested. They whispered to each other. At length, "Show us," commanded the chief.

HASCOMBE demonstrated his preparation with greater interest than he had ever done to first-year medical students in the old days. He explained that the blood was composed of little people of various sorts, each with their own lives, and that to spy upon them thus gave us new powers over them. The elders were more or less impressed. At any rate the sight of these thousands of corpuscles where they could see nothing before made them think, made them realize that the white man had power which might make him a desirable servant.

They would not ask to see their own blood for fear that the sight would put them into the power of those who saw it. But they had blood drawn from a slave. Hascombe asked too for a bird, and was able to create a certain interest by showing how different were the little people of its blood.

"Tell them," he said to the interpreter, "that I have many other powers and magics which I will show them if they will give me time."

The long and short of it was that he and his party were spared—He said he knew then what one felt when the magistrate said: "remanded for a week."

He had been attracted by one of the elder statesmen of the tribe—a tall, powerful-looking man of middle-age; and was agreeably surprised when this man came round next day to see him. Hascombe later nicknamed him the Prince-Bishop, for his combination of the qualities of the statesman and the ecclesiastic: his real name was Bugala. He was as anxious to discover more about Hascombe's mysterious powers and resources as Hascombe was to learn what he could of the people into whose hands he had fallen, and they met almost every evening and talked far into the night.

Bugala's inquiries were as little prompted as Hascombe's by a purely academic curiosity. Impressed himself by the microscope, and still more by the effect which it had had on his colleagues, he was anxious to find out whether by utilizing the powers of the white man he could not secure his own advancement. At length, they struck a bargain. Bugala would see to it that no harm befell Hascombe. But Hascombe must put his resources and powers at the disposal of the Council; and Bugala would take good care to arrange matters so that he himself benefited. So far as Hascombe could make out, Bugala imagined a radical change in the national religion, a sort of reformation based on Hascombe's conjuring tricks; and that he would emerge as the High Priest of this changed system.

Hascombe had a sense of humor, and it was tickled. It seemed pretty clear that they could not escape, at least for the present. That being so, why not take the opportunity of doing a little research

work at state expense—an opportunity which he and his like were always clamoring for at home? His thoughts began to run away with him. He would find out all he could of the rites and superstitions of the tribe. He would, by the aid of his knowledge and his scientific skill, craft the details of these rites, the expression of these superstitions, the whole physical side of their religiosity, on to a new level which should to them appear truly miraculous.

It would not be worth my troubling to tell all the negotiations, the false starts, the misunderstandings. In the end he secured what he wanted—a building which could be used as a laboratory; an unlimited supply of slaves for the lower and priests for the higher duties of laboratory assistants, and the promise that when his scientific stores were exhausted they would do their best to secure others from the coast—a promise which was scrupulously kept, so that he never went short for lack of what money could buy.

He next applied himself diligently to a study of their religion and found that it was built round various main motifs. Of these, the central one was the belief in the divinity and tremendous importance of the First-King. The second was a form of ancestor-worship. The third was an animal cult, in particular of the more grotesque species of the African fauna. The fourth was sex, *cosmopolitan*. Huxcombe reflected on these facts. Tissue culture; experimental embryology; endocrine treatment; artificial parthenogenesis. He laughed and said to himself: "Well, at least I can try, and it ought to be amazing."

THAT was how it all started. Perhaps the best way of giving some idea of how it had developed will be for me to tell my own impressions when Huxcombe took me round his laboratories. One whole quarter of the town was devoted entirely to religion—it struck me as excessive, but Huxcombe reminded me that Tibet spends one-fifth of its revenues on melted butter to burn before its shrines. Facing the main square was the chief temple, built impressively enough of solid mud. On either side were the apartments where dwelt the servants of the gods and administrators of the sacred rites. Behind were Huxcombe's laboratories, some built of mud, others, under his later guidance, of wood. They were guarded night and day by patrols of giants, and were arranged in a series of quadrangles. Within one quadrangle was a pool which served as an aquarium; in another, aviaries and great hen-houses; in yet another, cages with various animals; in the fourth a little botanic garden. Behind were stables with dozens of cattle and sheep, and a sort of experimental ward for human beings.

He took me into the nearest of the buildings. "This," he said, "is known to the people as the Factory of Kingship or Majesty, and the Wellspring of Ancestral Immortality." I looked round, and saw platoons of buxom and shining African women, becomingly but unusually dressed in tight-fitting white dresses and caps, and wearing rubber gloves. Microscopes were much in evidence, as also various

receptacles from which steam was emerging. The back of the room was screened off by a wooden screen in which were a series of glass doors; and these doors opened into partitions, each labelled with a name in that unknown tongue, and each containing a number of objects like the one I had seen taken out of the basket by the giant before we were captured. Pipes surrounded this chamber, and appeared to be distributing heat from a fire in one corner.

"Factory of Majesty!" I exclaimed. "Wellspring of Immortality! What the diemons do you mean?"

"If you prefer a more prosaic name," said Huxcombe, "I should call this the Institute of Religious Tissue Culture." My mind went back to a day in 1918 when I had been taken by a biological friend in New York to see the famous Rockefeller Institute; and at the word tissue culture I saw again before me Dr. Alexis Carrel and troops of white-garbed American girls making cultures, sterilizing, microscoping, incubating and the rest of it. The Huxcombe Institute was, it is true, not so well equipped, but it had an even larger, if differently colored, personnel.

Huxcombe began his explanations. "As you probably know, Frazer's 'Golden Bough' introduced us to the idea of a sacred priest-king, and showed how fundamental it was in primitive societies. The welfare of the tribe is regarded as inextricably bound up with that of the King, and extraordinary precautions are taken to preserve him from harm. In this kingdom, in the old days, the King was hardly allowed to set his foot to the ground in case he should lose divinity; his cut hair and nail-parings were entrusted to one of the most important officials of state, whose duty it was to bury them secretly, in case some enemy should compass the King's illness or death by using them in black magic rites. If anyone of base blood trod on the King's shades, he paid the penalty with his life. Each year a slave was made mock-king for a week, allowed to enjoy all the king's privileges, and was decapitated at the close of his brief glory; and by this means it was supposed that the illnesses and misfortunes that might befall the King were vicariously got rid of.

"I first of all rigged up my apparatus, and with the aid of Aggers, succeeded in getting good cultures, first of chick tissues and later, by the aid of embryo-extract, of various adult mammalian tissues. I then went to Bugala, and told him that I could increase the safety, if not of the King as an individual, at least of the life which was in him, and that I presumed that this would be equally satisfactory from a theological point of view. I pointed out that if he chose to be made guardian of the King's subsidiary lives, he would be in a much more important position than the chamberlain or the bearer of the sacred nail-parings, and might make the post the most influential in the realm.

"Eventually I was allowed (under threats of death if anything untoward occurred) to remove small portions of His Majesty's subcutaneous connective tissue under a local anaesthetic. In the presence of the assembled nobility I put fragments of this into

*A very elaborate treatise on a division of Roman mythology, especially on the cult of Diana.

culture medium, and showed it them under the microscope. The cultures were then put away in the incubator, under a guard—renewed every eight hours—of half a dozen warriors. After three days, to my joy they had all taken and showed abundant growth. I could see that the Council was impressed, and needed of a magnificent speech, pointing out that this growth constituted an actual increase in the quantity of the divine principle inherent in royalty; and, what was more, that I could increase it indefinitely. With that I cut each of my cultures into eight, and sub-cultured all the pieces. They were again put under guard, and again examined after three days. Not all of them had taken this time, and there were some murmurs and angry looks, on the ground that I had killed some of the King; but I pointed out that the King was still the King, that his little wound had completely healed, and that any successful cultures represented so much extra sacredness and protection to the state. I must say that they were very reasonable, and had good theological acumen, for they at once took the hint.

"I pointed out to Bugala, and he persuaded the rest without much difficulty, that they could now disregard some of the older implications of the doctrine of kingship. The most important new idea which I was able to introduce was mass-production. Our aim was to multiply the King's tissues indefinitely, to ensure that some of their protecting power should reside everywhere in the country. Thus by concentrating upon quantity, we could afford to remove some of the restrictions upon the King's mode of life. This was of course agreeable to the King; and also to Bugala, who saw himself wielding undreamt-of power. One might have supposed that such an innovation would have met with great resistance simply on account of its being an innovation; but I must admit that these people compared very favorably with the average business man in their lack of prejudice.

"Having thus settled the principle, I had many debates with Bugala as to the best methods for enlisting the mass of the population in our scheme. What an opportunity for scientific advertising! But, unfortunately, the population could not read. However, war propaganda worked very well in more or less illiterate countries—why not here?"

HASCOMBE organized a series of public lectures in the capital, at which he demonstrated his royal tissues to the multitude, who were bidden to the place by royal heralds. An impressive platform group was always supplied from the ranks of the nobles. The lecturer explained how important it was for the community to become possessed of greater and greater stores of the sacred tissues. Unfortunately, the preparation was laborious and expensive, and it behooved them all to lend a hand. It had accordingly been arranged that to everyone subscribing a cow or buffalo, or its equivalent—three goats, pigs, or sheep—a portion of the royal anatomy should be given, handsomely mounted in an ebony holder. Sub-culturing would be done at certain hours and days, and it would be obligatory to send the cultures for renewal. If through any

negligence the tissues died, no renewal would be made. The subscription entitled the receiver to sub-culturing rights for a year, but was of course renewable. By this means not only would the totality of the King be much increased, to the benefit of all, but each cultureholder would possess an actual part of His Majesty, and would have the infinite joy and privilege of aiding by his own efforts the multiplication of divinity.

Then they could also serve their country by dedicating a daughter to the state. These young women would be housed and fed by the state, and taught the technique of the sacred culture. Candidates would be selected according to general fitness, but would of course, in addition, be required to attain distinction in an examination on the principles of religion. They would be appointed for a probationary period of six months. After this they would receive a permanent status, with the title of Sisters of the Sacred Tissue. From this, with age, experience, and merit, they could expect promotion to the rank of mothers, grandmothers, great-grandmothers, and grand-aunts of the same. The merit and benefit they would receive from their close contact with the source of all benefits would overflow on to their families.

The scheme worked like wildfire. Pigs, goats, cattle, buffaloes, and negro maidens poured in. Next year the scheme was extended to the whole country, a peripatetic laboratory making the rounds weekly.

By the close of the third year there was hardly a family in the country which did not possess at least one sacred culture. To be without one would have been like being without one's trousers—or at least without one's hat*—on Fifth Avenue. Thus did Bugala effect a reformation in the national religion, exthroned himself as the most important personage in the country, and entrenched applied science and Hascombe firmly in the organization of the state.

Encouraged by his success, Hascombe soon set out to capture the ancestry-worship branch of the religion as well. A public proclamation was made pointing out how much more satisfactory it would be if worship could be made not merely to the charred bones of one's forbears, but to bits of them still actually living and growing. All who were desirous of profiting by the enterprise of Bugala's Department of State should therefore bring their older relatives to the laboratory at certain specified hours, and fragments would be painlessly extracted for culture.

This, too, proved very attractive to the average citizen. Occasionally, it is true, grandfathers or aged mothers arrived in a state of indignation and protest. However, this did not matter, since, according to the law, once children were twenty-five years of age, they were not only assigned the duty of worshipping their ancestors, alive or dead, but were also given complete control over them, in order that all rites might be duly performed to the greater safety of the commonweal. Further, the ancestors soon found that the operation itself was trifling, and, what was more, that once accomplished, it had the most desirable results. For their descendants preferred to concentrate at once upon the culture

*This was written before the year 1933.

which they would continue to worship after the old folk were gone, and so left their parents and grandparents much freer than before from the irksome restrictions which in all ages have been the officially holy.

Thus, by almost every hearth in the kingdom, instead of the old-fashioned rows of red jars containing the incinerated remains of one or other of the family forbears, the new generation now growing up a collection of family slides. Each would be taken out and reverently examined at the hour of prayer. "Grandpapa is not growing well this week," you would perhaps hear the young black devotee say; the father of the family would pray over the speck of tissue; and if that failed, it would be taken back to the factory for rejuvenation. On the other hand, what rejoicing when a rhythm of activity stirred in the cultures? A spurt on the part of great-grandmother's tissues would bring her wrinkled old smile to mind again; and sometimes it seemed as if one particular generation were all stirred simultaneously by a pulse of growth, as if combining to bless their devout descendants.

To deal with the possibility of cultures dying out, Haccombe started a central storehouse, where duplicates of every strain were kept, and it was this repository of the national tissues which had attracted my attention at the back of the laboratory. No such collection had ever existed before, he assured me. Not a necropolis, but a histopolis, if I may coin a word: not a cemetery, but a place of eternal growth.

THE second building was devoted to endocrine products—an African Armour's—and was called by the people the "Factory of Ministers to the Shrines."

"Here," he said, "you will not find much new. You know the craze for 'glands' that was going on at home years ago, and its results, in the shape of pluri-glandular preparations, a new genre of patent medicines, and a popular literature that threatened to outdo the Presidians, and explain human beings entirely on the basis of glandular make-up, without reference to the mind at all.

"I had only to apply my knowledge in a comparatively simple manner. The first thing was to show Bugala how, by repeated injections of pre-pituitary, I could make an ordinary baby grow up into a giant. This pleased him, and he introduced the idea of a sacred bodyguard, all of really gigantic stature, quite overshadowing Frederick's Grenadiers.

"I did, however, extend knowledge in several directions. I took advantage of the fact that their religion holds in reverence monstrosities and imbecile forms of human beings. That is, of course, a common phenomenon in many countries, where half-wits are supposed to be inspired, and dwarfs the object of superstitious awe. So I went to work to create various new types. By employing a particular extract of adrenal cortex, I produced children who would have been a match for the Infant Hercules, and, indeed, looked rather like a cross between him and a brewer's drayman. By injecting the same extract into adolescent girls I was able to provide them with the most copious mustaches, after which they found ready employment as prophetesses.

"Tampering with the post-pituitary gave remarkable cases of obesity. This, together with the passion of the men for fitness in their women, Bugala took advantage of, and I believe made quite a fortune by selling as concubines female slaves treated in this way. Finally, by another pituitary treatment, I at last mastered the secret of true dwarfism, in which perfect proportions are retained.

"Of these productions, the dwarfs are retained as acolytes in the temple; a band of the obese young ladies form a sort of Society of Vestal Virgins, with special religious duties, which, as the embodiment of the national ideal of beauty, they are supposed to discharge with peculiarly propitious effect; and the giants form our Regular Army.

"The Obese Virgins have set me a problem which I confess I have not yet solved. Like all races who set great store by sexual enjoyment, these people have a correspondingly exaggerated reverence for virginity. It therefore occurred to me that if I could apply Jacques Loub's great discovery of artificial parthenogenesis to man, or, to be precise, to these young ladies, I should be able to grow a race of vestals, self-reproducing yet ever virgin, to whom in concentrated form should attach that reverence of which I have just spoken. You see, I must always remember that it is no good proposing any line of work that will not benefit the national religion. I suppose state-aided research would have much the same kind of difficulties in a really democratic state. Well this, as I say, has so far beaten me. I have taken the matter a step further than Ratsillon with his fatherless frogs, and have induced parthenogenesis in the eggs of reptiles and birds; but so far I have failed with mammals. However, I've not given up yet!"

Then we passed to the next laboratory, which was full of the most incredible animal monstrosities. "This laboratory is the most amazing," said Haccombe. "Its official title is 'Home of the Living Fetishes.' Here again I have simply taken a prevalent trait of the populace, and used it as a peg on which to hang research. I told you that they always had a fancy for the grotesque in animals, and used the most bizarre forms, in the shape of little clay or ivory statuettes, for fetishes.

"I thought I would see whether art could not improve upon nature, and set myself to recall my experimental embryology. I use only the simplest methods. I utilize the plasticity of the earliest stages to give double-headed and cyclopaean monsters. That was, of course, done years ago in nests by Spemann and fish by Stockard; and I have merely applied the mass-production methods of Mr. Ford to their results. But my specialties are three-headed snakes, and toads with an extra heaven-pointing head. The former are a little difficult, but there is a great demand for them, and they fetch a good price. The frogs are easier; I simply apply Harrison's methods to embryos tadpoles."

He then showed me into the last building. Unlike the others, this contained no signs of research in progress, but was empty. It was draped with black hangings, and lit only from the top. In the centre were rows of ebony benches, and in front of them a glittering golden ball on a stand.

"Here I am beginning my work on reinforced telepathy," he told me. "Some day you must come and see what it's all about, for it really is interesting."

You may imagine that I was pretty well flabbergasted by this catalogue of miracles. Every day I got a talk with Haecombe, and gradually the talks became recognized events of our daily routine. One day I asked if he had given up hope of escaping. He showed a queer hesitation in replying. Eventually he said, "To tell you the truth, my dear Jones, I have really hardly thought of it these last few years. It seemed so impossible at first that I deliberately put it out of my head and turned with more and more energy, I might almost say fury, to my work. And now, upon my soul, I am not quite sure whether I want to escape or not."

"Not want to?" I exclaimed; "surely you can't mean that?"

"I am not so sure," he rejoined. "What I most want is to get ahead with this work of mine. Why, man, you don't realize what a chance I've got! And it is all growing so fast—I can see every kind of possibility ahead"; and he broke off into silence.

However, although I was interested enough in his past achievements, I did not feel willing to sacrifice my future to his perverted intellectual ambitions. But he would not leave his work.

THE experiments which most excited his imagination were those he was conducting into mass telepathy. He had received his medical training at a time when abnormal psychology was still very unfashionable in England, but had luckily been thrown in contact with a young doctor who was a keen student of hypnotism, through whom he had been introduced to some of the great pioneers, like Bramwell and Wingfield. As a result, he had become a passable hypnotist himself, with a fair knowledge of the literature.

In the early days of his captivity he became interested in the sacred dances which took place every night of full moon, and were regarded as propitiations of the celestial powers. The dancers all belong to a special sect. After a series of exciting figures, symbolizing various activities of the chase, war, and love, the leader conducts his band to a ceremonial bench. He then begins to make passes at them; and what impressed Haecombe was this, that a few seconds sufficed for them to fall back in deep hypnosis against the ebony rail. It recalled, he said, the most startling cases of collective hypnosis recorded by the French scientists. The leader next passed from one end of the bench to the other, whispering a brief sentence into each ear. He then, according to immemorial rite, approached the Priest-King, and, after having exclaimed aloud "Lord of Majesty, command what thou wilt for thy dancers to perform," the King would thereupon command some action which had previously been kept secret. The command was often to fetch some object and deposit it at the moon-shrine; or to fight the enemies of the state; or (and this was what the company most liked) to be some animal, or bird. Whatever the command, the hypnotized men would obey it, for the leader's whispered words had been an order to hear and carry out only what the King

said; and the strangest scenes would be witnessed as they ran, completely oblivious of all in their path, in search of the goods or sheep they had been called on to procure, or lunged in a symbolic way at invisible enemies, or threw themselves on all fours and roared as lions, or galloped as zebras, or danced as cranes. The command executed, they stood like stocks or stones, until their leader, running from one to the other, touched each with a finger and shouted "Wake." They woke, and limp, but conscious of having been the vessels of the unknown spirit, danced back to their special hut or clubhouse.

This susceptibility to hypnotic suggestion struck Haecombe, and he obtained permission to test the performers more closely. He soon established that the people were, as a race, extremely prone to dissociation, and could be made to lapse into deep hypnosis with great ease, but a hypnosis in which the subconscious, though completely cut off from the waking self, comprised portions of the personality not retained in the hypnotic selves of Europeans. Like most who have flattered round the psychological candle, he had been interested in the notion of telepathy; and now, with this supply of hypnotic subjects under his hands, began some real investigation of the problem.

By picking his subjects, he was soon able to demonstrate the existence of telepathy, by making suggestions to one hypnotized man who transferred them without physical intermediation to another at a distance. Later—and this was the culmination of his work—he found that when he made a suggestion to several subjects at once, the telepathic effect was much stronger than if he had done it to one at a time—the hypnotized minds were reinforcing each other. "I'm after the super-consciousness," Haecombe said, "and I've already got the rudiments of it."

I must confess that I got almost as excited as Haecombe over the possibilities thus opened up. It certainly seemed as if he were right in principle. If all the subjects were in practically the same psychological state, extraordinary reinforcing effects were observed. At first the attainment of this similarity of condition was very difficult; gradually, however, we discovered that it was possible to tune hypnotic subjects to the same pitch, if I may use the metaphor, and then the fun really began.

First of all we found that with increasing reinforcement, we could get telepathy conducted to greater and greater distances, until finally we could transmit commands from the capital to the national boundary, nearly a hundred miles. We next found that it was not necessary for the subject to be in hypnosis to receive the telepathic command. Almost everybody, but especially those of equable temperament, could thus be influenced. Most extraordinary of all, however, were what we at first christened "near effects," since their transmission to a distance was not found possible until later. If, after Haecombe had suggested some simple command to a large group of hypnotized subjects, he or I went right up among them, we would experience the most extraordinary sensation, as of some superhuman personality repeating the command in a menacing

and overwhelming way and, whereas with one part of ourselves we felt that we must carry out the command, with another we felt, if I may say so, as if we were only a part of the command, or of something much bigger than ourselves which was commanding. And this, Hascombe claimed, was the first real beginning of the super-consciousness.

Bugala, of course, had to be considered. Hascombe, with the old Tibetan prayer-wheel at the back of his mind, suggested that eventually he would be able to induce hypnotism in the whole population, and then transmit a prayer. This would ensure that the daily prayer, for instance, was really said by the whole population, and, what is more, simultaneously, which would undoubtedly much enhance its efficacy. And it would make it possible in times of calamity or battle to keep the whole praying force of the nation at work for long spells together.

BUGALA was deeply interested. He saw himself through this mental machinery, planting such ideas as he wished in the brain-cases of his people. He saw himself willing an order; and the whole population rousing itself out of trance to execute it. He dreamt dreams before which those of the proprietor of a newspaper syndicate, even those of a director of propaganda in wartime, would be pale and timid. Naturally, he wished to receive personal instruction in the methods himself; and, equally naturally, we could not refuse him, though I must say that I often felt a little uneasy as to what he might choose to do if he ever decided to override Hascombe and to start experimenting on his own. This, combined with my constant longing to get away from the place, led me to cast about again for means of escape. Then it occurred to me that this very method about which I had such gloomy premonitions, might itself be made the key to our prison.

So one day, after getting Hascombe worked up about the loss to humanity it would be to let this great discovery die with him in Africa, I set to in earnest. "My dear Hascombe," I said, "you must get home out of this. What is there to prevent you saying to Bugala that your experiments are nearly crowned with success, but that for certain tests you must have a much greater number of subjects at your disposal? You can then get a battery of two hundred men, and after you have tuned them, the reinforcement will be so great that you will have at your disposal a mental force big enough to affect the whole population. Then, of course, one fine day we should raise the potential of our mind-battery to the highest possible level, and send out through it a general hypnotic influence. The whole country, men, women, and children, would sink into stupor. Next we should give our experimental squad the suggestion to broadcast 'sleep for a week.' The telepathic message would be relayed to each of the thousand minds waiting receptively for it, and would take root in them, until the whole nation became a single super-consciousness, conscious only of the one thought 'sleep' which we had thrown into it."

The reader will perhaps ask how we ourselves expected to escape from the clutches of the super-consciousness we had created. Well, we had dis-

covered that metal was relatively impervious to the telepathic effect, and had prepared for ourselves a sort of tin pulpit, behind which we could stand while conducting experiments. This, combined with coils of metal foil, enormously reduced the effects on ourselves. We had not informed Bugala of this property of metal.

Hascombe was absent. At length he spoke. "I like the idea, he said; "I like to think that if I ever do get back to England and to scientific recognition, my discovery will have given me the means of escape."

From that moment we worked assiduously to perfect our method and our plans. After about five months everything seemed propitious. We had provisions packed away, and compasses. I had been allowed to keep my rifle, on promise that I would never discharge it. We had made friends with some of the men who went trading to the coast, and had got from them all the information we could about the route, without arousing their suspicions.

At last, the night arrived. We assembled our men as if for an ordinary practice, and after hypnotism had been induced, started to tune them. At this moment Bugala came in, unannounced. This was what we had been afraid of; but there had been no means of preventing it. "What shall we do?" I whispered to Hascombe, in English. "Go right ahead and be damned to it," was his answer; "we can put him to sleep with the rest."

So we welcomed him, and gave him a seat as near as possible to the tightly-packed ranks of the performers. At length the preparations were finished. Hascombe went into the pulpit and said, "Attention to the words which are to be suggested." There was a slight stiffening of the bodies. "Sleep," said Hascombe. "Sleep is the command; command all in this land to sleep unbrokenly." Bugala leapt up with an exclamation; but the induction had already begun.

We with our metal coverings were immune. But Bugala was struck by the full force of the mental current. He sank back on his chair, helpless. For a few minutes his extraordinary will resisted the suggestion. Although he could not move, his angry eyes were open. But at length he succumbed, and he too slept.

We lost no time in starting, and made good progress through the silent country. The people were sitting about like wax figures. Women sat asleep by their milk-pails, the cow by this time far away. Fat bellied naked children slept at their games. The houses were full of sleepers sleeping upright round their food, recalling Wordsworth's famous "party in a parlor."

So we went on, feeling pretty queer and secretly believing in this morbid state into which we had plunged a nation. Finally the frontier was reached, where with extreme elation, we passed an Immobility and gigantic frontier guard. A few miles further we had a good solid meal, and a dose. Our kit was rather heavy, and we decided to jettison some superfluous weight, in the shape of some food, specimens, and our metal headgear, or mind-protectors, which at this distance, and with the hypnotis wearing a little thin, were, we thought, no longer necessary.

About midnight on the third day, Hascombe suddenly stopped and turned his head.

"What's the matter?" I said. "Have you seen a lion?" His reply was completely unexpected. "No. I was just wondering whether really I ought not to go back again."

"Go back again," I cried. "What in the name of God Almighty do you want to do that for?"

"It suddenly struck me that I ought to," he said, "about five minutes ago. And really, when one comes to think of it, I don't suppose I shall ever get such a chance at research again. What's more, this is a dangerous journey to the coast, and I don't expect we shall get through alive."

I was thoroughly upset and put out, and told him so. And suddenly, for a few moments, I felt I must go back too. It was like that old friend of our boyhood, the voice of conscience.

"Yes, to be sure, we ought to go back," I thought with fervor. But suddenly checking myself as the thought came under the play of reason—"Why should we go back?" All sorts of reasons were proffered, as it were by unseen hands reaching up out of the hidden parts of me.

AND then I realized what had happened. Bugala had waked up; he had wiped out the suggestion we had given to the super-consciousness, and in its place put in another. I could see him thinking it out, the cunning devil (one must give him credit for brains!), and hear him, after making his pauses, whisper to the nation in prescribed form his new suggestion: "Will to return!" "Return!" For most of the inhabitants the command would have no meaning, for they would have been already at home. Doubtless some young men out on the hills, or truant children, or girls run off in secret to meet their lovers, were even now returning, stiffly and in semicomatose trance, to their homes. It was only for them that the new command of the super-consciousness had any meaning—and for us.

I am putting it in a long and discursive way; at the moment I simply saw what had happened in a flash. I told Hascombe, I showed him it must be so, that nothing else would account for the sudden change, I begged and implored him to use his reason, to stick to his decision and to come on. How I regretted that, in our desire to discard all useless weight, we had left behind our metal telepathy-proof head coverings!

But Hascombe would not, or could not, see my point. I suppose he was much more imbued with all the feelings and spirit of the country, and so more susceptible. However that may be, he was

immovable. He must go back; he knew it; he saw it clearly; it was his sacred duty; and much other similar rubbish. All this time the suggestion was attacking me too; and finally I felt that if I did not put more distance between me and that sinister battery of will, I should succumb as well as he.

"Hascombe," I said, "I am going on. For God's sake, come with me." And I shouldered my pack, and set off. He was shaken, I saw, and came a few steps after me. But finally he turned, and, in spite of my frequent pauses and shouts to him to follow made off in the direction we had come. I can assure you that it was with a gloomy soul that I continued my solitary way. I shall not bore you with my adventures. Suffice it to say that at last I got to a white outpost, weak with fatigue and poor food and fever.

I kept very quiet about my adventures, only giving out that our expedition had lost its way and that my men had run away or been killed by the local tribes. At last I reached England. But I was a broken man, and a profound gloom had invaded my mind at the thought of Hascombe and the way he had been caught in his own net. I never found out what happened to him, and I do not suppose that I am likely to find out now. You may ask why I did not try to organize a rescue expedition; or why, at least, I did not bring Hascombe's discoveries before the Royal Society or the Metaphysical Institute. I can only repeat that I was a broken man. I did not expect to be believed; I was not at all sure that I could repeat our results, even on the same human material, much less with men of another race; I dreaded ridicule; and finally I was tormented by doubts as to whether the knowledge of mass-telepathy would not be a curse rather than a blessing to mankind.

However, I am an oldish man now and, what is more, old for my years. I want to get the story off my chest. Besides, old men like sermonizing and you must forgive, gentle reader, the sermonized turn which I now feel I must take. The question I want to raise is this: Dr. Hascombe attained to an unsurpassed power in a number of the applications of science—but to what end did all this power serve? It is the merest cant and trundle to go on asserting, as most of our press and people continue to do, that increase of scientific knowledge and power must in itself be good. I commend to the great public the obvious moral of my story and ask them to think what they propose to do with the power which is gradually being accumulated for them by the labors of those who labor because they like power, or because they want to find the truth about how things work.