

Tempat Duduk: _____

Angka Giliran: _____

UNIVERSITI SAINS MALAYSIA
Peperiksaan Semester Pertama
Sidang 1987/88
HEK 301 - Bahasa Inggeris Maju I

Tarikh: 25 Oktober 1987

Masa: 9.00 pagi - 12.00 t/hari
(3 Jam)

Answer ALL questions.

Answers are to be written in the spaces provided.

QUESTION 1

Write a summary of the following selection: "War as a Biological Phenomenon" by Julian Huxley.
(50 marks)

1 Whenever we tend to become completely absorbed in an enterprise or an idea, it is a good thing to stand off from it now and again and look at it from the most dispassionate point of view possible. War is no exception. Quite rightly, all our major efforts must to-day be devoted to the urgent business of making sure that we win the war¹ and win it as quickly as possible. We are for most purposes immersed in the war; however, it will not merely do no harm, but will actually be of service, if now and again we try to get outside it and to look at it as objectively as we can in long perspective.

2 The longest possible perspective is that of the biologist, to whom man is a single animal species among hundreds of thousands of others, merely one of the products (albeit the latest and the most successful) of millions of years of evolution.

¹ The war referred to is the Second World War.

3 How does war look when pinned out in the biologist's collection? In the first place he is able to say with assurance that war is not a general law of life but an exceedingly rare biological phenomenon. War is not the same thing as conflict or bloodshed. It means something quite definite: an organized physical conflict between groups of one and the same species. Individual disputes between members of the same species are not war, even if they involve bloodshed and death. Two stags fighting for a harem of hinds, or a man murdering another man, or a dozen dogs fighting over a bone, are not engaged in war. Competition between two different species, even if it involves physical conflict, is not war. When the brown rat was accidentally brought to Europe and proceeded to oust the black rat from most of its haunts, that was not war between the two species of rat: not it is war in any but a purely metaphorical sense when we speak of making war on the malarial mosquito or the boll-weevil. Still less is it war when one species preys upon another, even when the preying is done by an organized group. A pack of wolves attacking a flock of sheep or deer, or a peregrine killing a duck, is not war. Much of nature, as Tennyson correctly said, is "red in tooth and claw"; but this only means what it says, that there is a great deal of killing in the animal world, not that war is the rule of life.

4 In point of fact, there are only two kinds of animals that habitually make war--man and ants. Even among ants war is mainly practised by one group, comprising only a few species among the tens of thousands that are known to science. They are the harvester ants, inhabitants of arid regions where there is little to pick up during the dry months. Accordingly they collect the seeds of various grasses at the end of the growing season and store them in special underground granaries in their nests. It is these reserve supplies which are the object of ant warfare. The inhabitants of one nest set out deliberately to raid the supplies of another group. According to Forel and other students of ant life, they may employ quite elaborate military tactics, and the battles generally result in heavy casualties. If the attackers win, they remove the stores grain by grain to their own nest. Ant wars never last nearly so long as human wars. One campaign observed by the American myrmecologist McCook in Penn Square in the centre of Philadelphia, lasted almost 3 weeks. The longest on record of 6 1/2 weeks.

5 Harvesters are the only kind of ants to go in for accumulating property as well as the chief kind to practise war. This association of property with war is interesting, as various anthropologists believe that in the human species war, or any any rate habitual and organized war did not arise in human evolution until man had reached the stage of settled civilization when he began to accumulate stores of grain and other forms of wealth.

6 Less deliberate wars may also occur in some other species, between communities whose nests are so close that they compete for the same food-territory. When similarly provoked conflicts occur between closely related species, the term war may perhaps be extended to them. On the other hand, the raids of the slave-making ants are not true war, but a curious combination of predation and parasitism.

7 There is another group of ants called army ants, which suggests military activity; but the phrase is really a mis-nomer,, for these army ants are in reality simply predatory species which happen to hunt in packs: they are the wolves of the insect world, not the war-mongers.

8 So much then for war as a biological phenomenon. The facts speak for themselves. War, far from being a universal law of nature, or even a common occurrence, is a very rare exception among living creatures: and where it occurs, it is either associated with another phenomenon, almost equally rare, the amassing of property, or with territorial rights.

9 Biology can help put war in its proper perspective in another way. War has often been justified on biological grounds. The program of life, say war apologists, depends on the struggle for existence. This struggle is universal and results in what Darwin called "Natural Selection," and this in its turn results in the "Survival of the Fittest." Natural Selection, of course works only in a mass way, so that those which survive in the struggle will merely have an average of fitness a little above those which perish or fail to reproduce themselves. But some of the qualities which make for success in the struggle, and so for a greater chance of survival, will certainly be inherited; and since the process continues generation after generation not merely for thousands but for millions of years, the average fitness and efficiency of the race will steadily and continuously be raised until it can be pushed no higher. In any case, say the believers in this doctrine, struggle is necessary to maintain fitness: if the pressure of competition and conflict is removed, biological efficiency will suffer and degeneration will set in.

10 Darwin's principle of Natural Selection, based as it is on constant pressure of competition or struggle, has been invoked to justify various policies in human affairs. For instance, it was used, especially by politicians in late Victorian England, to justify the principles of *laissez-faire* and free competition in business and economic affairs. And it was used, especially by German writers and politicians from the late nineteenth century onwards, to justify militarism. War, so ran this particular version of the argument, is the form which is taken by Natural Selection and the Struggle for Existence in the affairs of the nations. Without war, the heroic virtues degenerate: without war, no nation can possibly become great or successful.

11 It turns out, however, that both the *laissez-faire* economists and the militarists were wrong in appealing to biology for justification of their policies. War is a rather special aspect of competition between members of the same species--what biologists call "intra-specific competition." It is a special case because it involves physical conflict and often the death of those who undertake it, and also because it is physical conflict not between individuals but between organized groups; yet it shares certain properties in common with all other forms of intra-specific struggle or competition. And recent studies of the way in which Natural Selection works and how the Struggle for Existence operates in different conditions have resulted in this rather surprising but very important conclusion--that intra-specific competition need not, and usually does not, produce results of any advantage to the species as a whole.

12 A couple of examples will show what I mean. In birds like the peacock or the argus pheasant, the males are polygamous--if they can secure a harem. They show off their gorgeous plumage before the hen birds in an elaborate and very striking display, at definite assembly grounds where males and females go for the purpose of finding mates. The old idea that the hen deliberately selects the male she thinks the most beautiful is putting the matter in human terms which certainly do not apply to a bird's mind; but it seems certain that the brilliant and exciting display does have an effect on the hen bird, stimulating her to greater readiness to mate. Individual male birds meet with different degrees of success in this polygamous love business: some secure quite a number of mates, others only one or a few, and some get none at all. This puts an enormous biological premium on success; the really successful male leaves many times more descendants than the unsuccessful. Here, then, is Natural Selection working at an exceedingly high pitch of intensity to make their display plumage and display actions more effective in their business of stimulating the hens. Accordingly, in polygamous birds of this kind, we often find the display plumage developed to a fantastic extent, even so far as to be a handicap to the species as a whole. Thus the display organ of the peacock, his train of enormously overgrown tail-covert feathers, is so long and cumbersome that it is a real handicap in flight. In the argus pheasant the chief display organs are the beautifully adorned wings which the male throws up and forward in display so that he looks like a gigantic bell-shaped flower. The business of display has been so important that it has overridden the business of flying, and now the male argus pheasant can fly only with difficulty, a few feet at a time.

13 Here are two good examples of how a purely intra-specific struggle, in this case between individual rival males, can produce results which are not merely useless, but harmful to the species as a whole in its struggle for

existence against its enemies and the forces of nature. In general, selection for success in reproduction reaches greater intensities than selection for individual survival, for the simple reason that reproduction implies multiplication: the individual is a single unit but as we have just seen for polygamous birds, success in reproduction may give the individual's characteristics a multiple representation in later generations.

14 In flowering plants, the intra-specific struggle for reproduction between different individuals often produces results which, if not directly harmful to the species, are at least incredibly wasteful. We need only to think of the fantastic profusion of bloom on flowering trees like dogwood or hawthorn or catalpa, or the still more fantastic profusion of pollen in trees which rely on fertilization by the wind, like pine and fir. The individual trees are competing for the privilege of surviving in their descendants; the species could certainly perpetuate itself with a much more modest expenditure of living material.

15 One final example. Naturalists have often noted the almost unbelievable perfection of the protective resemblance of certain insects to their surroundings. The most extraordinary cases are the resemblances of various butterflies, like the Kallima, to dead leaves. Not only do the folded wings perfectly resemble a dead leaf in shape and colour, not only do they have a projection to imitate the stalk, and dark lines which perfectly simulate the veins, but some even go so far as to be marked with imitation mould-spots and holes!

16 Now, in all butterflies the survival of the species depends to a pre-ponderant degree on the capacity of the defenceless and juicy caterpillar and chrysalis to survive. Selection presses with much greater intensity on the larval and pupal stages than on the adult. Furthermore, there is some sort of balance between the number of adults which survive to reproduce themselves and the intensity of selection which presses on the next generation of caterpillars. If more adults reproduce, there will be many more caterpillars, and they will be more easily found by their enemies, especially the tiny parasitic wasps which lay eggs inside the caterpillars, the eggs growing into grubs which devour the unfortunate animals from within. Conversely, if fewer adults reproduce, there are many fewer caterpillars, but each of them has a better chance of surviving to the butterfly stage. Accordingly, the protection of the adults is, from the point of view of the species, a secondary matter. Of course they must be protected sufficiently well for a reasonable number to survive and reproduce, but after this it is quite unimportant--for the species--if a slightly higher or a slightly lower proportion survives.

17 It is unimportant for the species but it remains important for the individual. If one kind of adult is better protected than another, it will automatically leave a higher average number of offspring; and so the intra-specific struggle for reproduction among the individual adult butterflies will continue to push any protective devices they possess on toward ever greater efficiency, even though this may be quite immaterial to the survival of the species. The perfection of the Kallima's resemblance to a dead leaf is one of the marvels of nature; not the least marvelous part of it is that it is of no value to the species as a whole.

18 On the other hand, intra-specific competition and struggle need not always lead to results which are useless to the species. The competition between individuals may concern qualities which are also useful in the struggle of the species against its enemies, as in deer or zebra or antelope--the same extra turn of speed which gives one individual an advantage over another in escaping from wolf or lion or cheetah will also stand the whole species in good stead. Or it may concern qualities which help the species in surviving in a difficult environment; an extra capacity for resisting drought in an individual cactus or yucca will help the species in colonizing new and more arid regions. It will not be useless or harmful to the species unless the competition is directed solely or mainly against other individuals like itself.

19 Furthermore, the results will differ according to conditions. When there is competition for mates among male birds, it will become really intense only when polygamy prevails and the advantage of success is therefore multiplied. Monogamous birds also stimulate their mates with a display of bright plumage, but in this case the display plumage is never developed to a pitch at which it is actually harmful in the general struggle for existence; the balance is struck at a different level.

20 All these considerations apply to war. In the first place it is obvious that war is an example of intra-specific competition--it is physical conflict between groups within the same species. As such, it might be not merely useless but harmful to the species as a whole--a drag on the evolutionary progress of humanity. But, further it might turn out to be harmful in some conditions and not in others. This indeed seems to be the truth. Those who say that war is always and inevitably harmful to humanity are indulging in an unjustified generalization (though not nearly so unjustified as the opposite generalization of the militarists who say that war is both necessary and beneficial to humanity). Warfare between peoples living on the tribal level of early barbarism may quite possibly have been on balance a good thing for the species--by encouraging the mainly virtues by mixing the heritage of otherwise closed communities through the capture of women, by keeping down excessive population--

pressure and in other ways. War waged by small professional armies according to a professional code was at least not a serious handicap to general progress. But long-continued war in which the civilian population is starved, oppressed and murdered and whole countries are laid waste, as in the Thirty Years War--that is harmful to the species; and so is total war in the modern German sense in which entire populations may be enslaved and brutalized, as with Poland or Greece today, whole cities smashed, like Rotterdam, the resources of large regions deliberately destroyed as in the Ukraine. The more total war becomes, both intensively, as diverting more of the energies of the population from construction to destruction and extensively, as involving more and more of the countries of the globe, the more of a threat does it become to the progress of the human species. As H.G. Wells and many others have urged, it might even turn back the clock of civilization and force the world into another Dark Age. War of this type is an intra-specific struggle from which nobody, neither humanity at large nor any of the groups engaged in the conflict, can really reap any balance of advantage, though of course we may snatch particular advantages out of the results of war.

21 But it is one thing to demonstrate that modern war is harmful to the species, another thing to do something about abolishing it. What has the biologists to say to those who assert that war is inevitable, since, they say, it is a natural outcome of human nature and human nature cannot possibly be changed?

22 To this the biologist can give a reassuring answer. War is not an inevitable phenomenon of human life; and when objectors of this type talk of human nature they really mean the expression of human nature, and this can be most thoroughly changed.

23 As a matter of observable fact, war occurs in certain conditions not in others. There is no evidence of prehistoric man's having made war, for all his flint implements seem to have been designed for hunting, for digging or for scraping hides: and we can be pretty sure that even if he did, any wars between groups in the hunting stage of human life would have been both rare and mild. Organized warfare is most unlikely to have begun before the stage of settled civilization. In man, as in ants, war in any serious sense is bound up with the existence of accumulations of property to fight about.

24 However, even after man had learned to live in cities and amass property, war does not seem to have been inevitable. The early Indus civilization, dating from about 3000 B.C. reveals no traces of war. There seem to have been periods in early Chinese history, as well as in the Inca civilization in Peru, in which war was quite or almost absent.

25 As for human nature, it contains no specific war instinct, as does the nature of harvester ants. There is in man's make-up a general aggressive tendency, but this, like all other human urges, is not a specific and unvarying instinct; it can be moulded into the most varied forms. It can be canalized into competitive sport, as in our own society, or as when certain Filipino tribes were induced to substitute football for head-hunting. It can be sublimated into non-competitive sport, like mountain-climbing, or into higher types of activity altogether, like exploration of research or social crusades.

26 There is no theoretical obstacle to the abolition of war. But do not let us delude ourselves with the idea that this will be easy. The first step needed is the right kind of international machinery. To invent that will not be particularly simple: sanctions against aggressors, the peaceful reconciliation of national interests in a co-operative international system, an international police force--we can see in principle that these and other necessary bits of anti-war machinery are possible, but it will take a great deal of hard thinking to design them so that they will really work.

27 The second step is a good deal more difficult. It is to find what William James called a "mortal equivalent for war," while at the same time reducing the reservoir of potential aggressiveness which now exists in every powerful nation. This is a psychological problem. Thanks to Freud and modern psychology in general, we are now beginning to understand how the self-assertive impulses of the child may be frustrated and repressed in such a way as to drive them underground. There in the subconscious they may persist in the form of crude urges to aggression and cruelty, which are all the more dangerous for not being consciously recognized.

28 To prevent the accumulation of this store of psychological dynamite and to find ways in which our self-assertive impulses can issue along conscious and constructive channels is a big job. It means a better structure of social and family life, one which does not inflict such frustrations on the growing human personality; it means a new approach to education; it means providing outlets in the form of physical or mental adventure for the impulses which would otherwise be unused even if not represented. It is a difficult task; but by no means an impossible one.

29 Thus in the perspective of biology war first dwindles to the status of a rare curiosity. Further probing, however, makes it loom larger again. For one thing, it is a form of intra-specific struggle, and as such may be useless or even harmful to the species as a whole. Then we find that one of the very few animal species which make war is man; and man is to-day not merely the highest product of evolution, but the only type still capable of real evolutionary

progress. And, war, though it need not always be harmful to the human species and its progress, indubitably is so when conducted in the total fashion which is necessary in this technology age. Thus war is not merely a human problem--it is a biological problem of the broadcast scope, for on its abolition may depend life's ability to continue the progress which it has slowly but steadily achieved through more than a thousand million years.

30 But the biologist can end on a note of tempered hope. War is not inevitable for man. His aggressive impulses *can* be canalized into other outlets: his political machinery *can* be designed to make war less likely. These things *can* be done; but to do them will require a great deal of hard thinking and hard work. While waging this particular war with all our might, we have a duty to keep a corner of our minds open, engaged on the job of thinking out ways and means of preventing war in general in the future.

Approx. 3,000 words

Angka Giliran: -----

QUESTION 2

EITHER

- (a) Write a 500 word exaggerated description of a hostel you stayed in or a campus canteen you have patronised. You are free to exaggerate and distort, but the hyperbole must reveal an essential truth.

OR

- (b) Write a 500 word argumentative essay on the topic:

"Competitive Sports -- a boon or a bane."

(50 marks)