

The World

Set Free



H. G. Wells

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PUBLISHER NOTES:

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PREFACE

THE WORLD SET FREE was written in 1913 and published early in 1914, and it is the latest of a series of three fantasias of possibility, stories which all turn on the possible developments in the future of some contemporary force or group of forces. The World Set Free was written under the immediate shadow of the Great War. Every intelligent person in the world felt that disaster was impending and knew no way of averting it, but few of us realised in the earlier half of 1914 how near the crash was to us. The reader will be amused to find that here it is put off until the year 1956. He may naturally want to know the reason for what will seem now a quite extraordinary delay. As a prophet, the author must confess he has always been inclined to be rather a slow prophet. The war aeroplane in the world of reality, for example, beat the forecast in *Anticipations* by about twenty years or so. I suppose a desire not to shock the sceptical reader's sense of use and wont and perhaps a less creditable disposition to hedge, have something to do with this dating forward of one's main events, but in the particular case of *The World Set Free* there was, I think, another motive in holding the Great War back, and that was to allow the chemist to get well forward with his discovery of the release of atomic energy. 1956—or for that matter 2056—may be none too late for that crowning revolution in human potentialities. And apart from this procrastination of over forty years, the guess at the opening phase of the war was fairly lucky; the forecast of an alliance of the Central Empires, the opening campaign through the Netherlands, and the despatch of the British Expeditionary Force were all justified before the book had been published six months. And the opening section of Chapter the Second remains now, after the reality has happened, a fairly adequate diagnosis of the essentials of the matter. One happy hit (in Chapter the Second, Section 2), on which the writer may congratulate himself, is the forecast that under modern conditions it would be quite impossible for any great general to emerge to supremacy and concentrate the enthusiasm of the armies of either side. There could be no Alexanders or Napoleons. And we soon heard the scientific corps muttering, 'These old fools,' exactly as it is here foretold.

These, however, are small details, and the misses in the story far outnumber the hits. It is the main thesis which is still of interest now; the thesis that because of the development of scientific knowledge, separate sovereign states and separate sovereign empires are no longer possible in the world, that to attempt to keep on with the old system is to heap disaster upon disaster for mankind and perhaps to destroy our race altogether. The remaining interest of this book now is the sustained validity of this thesis and the discussion of the possible ending of war on

the earth. I have supposed a sort of epidemic of sanity to break out among the rulers of states and the leaders of mankind. I have represented the native common sense of the French mind and of the English mind—for manifestly King Egbert is meant to be 'God's Englishman'—leading mankind towards a bold and resolute effort of salvage and reconstruction. Instead of which, as the school book footnotes say, compare to-day's newspaper. Instead of a frank and honourable gathering of leading men, Englishman meeting German and Frenchman Russian, brothers in their offences and in their disaster, upon the hills of Brissago, beheld in Geneva at the other end of Switzerland a poor little League of (Allied) Nations (excluding the United States, Russia, and most of the 'subject peoples' of the world), meeting obscurely amidst a world-wide disregard to make impotent gestures at the leading problems of the debacle. Either the disaster has not been vast enough yet or it has not been swift enough to inflict the necessary moral shock and achieve the necessary moral revulsion. Just as the world of 1913 was used to an increasing prosperity and thought that increase would go on for ever, so now it would seem the world is growing accustomed to a steady glide towards social disintegration, and thinks that that too can go on continually and never come to a final bump. So soon do use and wont establish themselves, and the most flaming and thunderous of lessons pale into disregard.

The question whether a Leblanc is still possible, the question whether it is still possible to bring about an outbreak of creative sanity in mankind, to avert this steady glide to destruction, is now one of the most urgent in the world. It is clear that the writer is temperamentally disposed to hope that there is such a possibility. But he has to confess that he sees few signs of any such breadth of understanding and steadfastness of will as an effectual effort to turn the rush of human affairs demands. The inertia of dead ideas and old institutions carries us on towards the rapids. Only in one direction is there any plain recognition of the idea of a human commonweal as something overriding any national and patriotic consideration, and that is in the working class movement throughout the world. And labour internationalism is closely bound up with conceptions of a profound social revolution. If world peace is to be attained through labour internationalism, it will have to be attained at the price of the completest social and economic reconstruction and by passing through a phase of revolution that will certainly be violent, that may be very bloody, which may be prolonged through a long period, and may in the end fail to achieve anything but social destruction. Nevertheless, the fact remains that it is in the labour class, and the labour class alone, that any conception of a world rule and a world peace has so far appeared. The dream of *The World Set Free*, a dream of highly educated and highly favoured leading and ruling men,

voluntarily setting themselves to the task of reshaping the world, has thus far remained a dream.

H. G. WELLS. EASTON GLEBE, DUNMOW, 1921.

PRELUDE
THE SUN SNARERS

Section I

THE history of mankind is the history of the attainment of external power. Man is the tool-using, fire-making animal. From the outset of his terrestrial career we find him supplementing the natural strength and bodily weapons of a beast by the heat of burning and the rough implement of stone. So he passed beyond the ape. From that he expands. Presently he added to himself the power of the horse and the ox, he borrowed the carrying strength of water and the driving force of the wind, he quickened his fire by blowing, and his simple tools, pointed first with copper and then with iron, increased and varied and became more elaborate and efficient. He sheltered his heat in houses and made his way easier by paths and roads. He complicated his social relationships and increased his efficiency by the division of labour. He began to store up knowledge. Contrivance followed contrivance, each making it possible for a man to do more. Always down the lengthening record, save for a set-back ever and again, he is doing more.... A quarter of a million years ago the utmost man was a savage, a being scarcely articulate, sheltering in holes in the rocks, armed with a rough-hewn flint or a fire-pointed stick, naked, living in small family groups, killed by some younger man so soon as his first virile activity declined. Over most of the great wildernesses of earth you would have sought him in vain; only in a few temperate and sub-tropical river valleys would you have found the squatting lairs of his little herds, a male, a few females, a child or so.

He knew no future then, no kind of life except the life he led. He fled the cave-bear over the rocks full of iron ore and the promise of sword and spear; he froze to death upon a ledge of coal; he drank water muddy with the clay that would one day make cups of porcelain; he chewed the ear of wild wheat he had plucked and gazed with a dim speculation in his eyes at the birds that soared beyond his reach. Or suddenly he became aware of the scent of another male and rose up roaring, his roars the formless precursors of moral admonitions. For he was a great individualist, that original, he suffered none other than himself.

So through the long generations, this heavy precursor, this ancestor of all of us, fought and bred and perished, changing almost imperceptibly.

Yet he changed. That keen chisel of necessity which sharpened the tiger's claw age by age and fined down the clumsy Orchippus to the swift grace of the horse, was at work upon him—is at work upon him still. The clumsier and more stupidly fierce among him were killed soonest and oftenest; the finer hand, the quicker eye, the bigger brain, the better balanced body prevailed; age by age, the implements were a little better made, the man a little more delicately adjusted to his possibilities. He

became more social; his herd grew larger; no longer did each man kill or drive out his growing sons; a system of taboos made them tolerable to him, and they revered him alive and soon even after he was dead, and were his allies against the beasts and the rest of mankind. (But they were forbidden to touch the women of the tribe, they had to go out and capture women for themselves, and each son fled from his stepmother and hid from her lest the anger of the Old Man should be roused. All the world over, even to this day, these ancient inevitable taboos can be traced.) And now instead of caves came huts and hovels, and the fire was better tended and there were wrappings and garments; and so aided, the creature spread into colder climates, carrying food with him, storing food—until sometimes the neglected grass-seed sprouted again and gave a first hint of agriculture.

And already there were the beginnings of leisure and thought.

Man began to think. There were times when he was fed, when his lusts and his fears were all appeased, when the sun shone upon the squatting-place and dim stirrings of speculation lit his eyes. He scratched upon a bone and found resemblance and pursued it and began pictorial art, moulded the soft, warm clay of the river brink between his fingers, and found a pleasure in its patternings and repetitions, shaped it into the form of vessels, and found that it would hold water. He watched the streaming river, and wondered from what bountiful breast this incessant water came; he blinked at the sun and dreamt that perhaps he might snare it and spear it as it went down to its resting-place amidst the distant hills. Then he was roused to convey to his brother that once indeed he had done so—at least that some one had done so—he mixed that perhaps with another dream almost as daring, that one day a mammoth had been beset; and therewith began fiction—pointing a way to achievement—and the august prophetic procession of tales.

For scores and hundreds of centuries, for myriads of generations that life of our fathers went on. From the beginning to the ripening of that phase of human life, from the first clumsy eolith of rudely chipped flint to the first implements of polished stone, was two or three thousand centuries, ten or fifteen thousand generations. So slowly, by human standards, did humanity gather itself together out of the dim intimations of the beast. And that first glimmering of speculation, that first story of achievement, that story-teller bright-eyed and flushed under his matted hair, gesticulating to his gaping, incredulous listener, gripping his wrist to keep him attentive, was the most marvellous beginning this world has ever seen. It doomed the mammoths, and it began the setting of that snare that shall catch the sun.

Section 2

That dream was but a moment in a man's life, whose proper business it seemed was to get food and kill his fellows and beget after the manner of all that belongs to the fellowship of the beasts. About him, hidden from him by the thinnest of veils, were the untouched sources of Power, whose magnitude we scarcely do more than suspect even to-day, Power that could make his every conceivable dream come real. But the feet of the race were in the way of it, though he died blindly unknowing.

At last, in the generous levels of warm river valleys, where food is abundant and life very easy, the emerging human overcoming his earlier jealousies, becoming, as necessity persecuted him less urgently, more social and tolerant and amenable, achieved a larger community. There began a division of labour, certain of the older men specialised in knowledge and direction, a strong man took the fatherly leadership in war, and priest and king began to develop their roles in the opening drama of man's history. The priest's solicitude was seed-time and harvest and fertility, and the king ruled peace and war. In a hundred river valleys about the warm, temperate zone of the earth there were already towns and temples, a score of thousand years ago. They flourished unrecorded, ignoring the past and unsuspecting of the future, for as yet writing had still to begin.

Very slowly did man increase his demand upon the illimitable wealth of Power that offered itself on every hand to him. He tamed certain animals, he developed his primordially haphazard agriculture into a ritual, he added first one metal to his resources and then another, until he had copper and tin and iron and lead and gold and silver to supplement his stone, he hewed and carved wood, made pottery, paddled down his river until he came to the sea, discovered the wheel and made the first roads. But his chief activity for a hundred centuries and more, was the subjugation of himself and others to larger and larger societies. The history of man is not simply the conquest of external power; it is first the conquest of those distrusts and fiercenesses, that self-concentration and intensity of animalism, that tie his hands from taking his inheritance. The ape in us still resents association. From the dawn of the age of polished stone to the achievement of the Peace of the World, man's dealings were chiefly with himself and his fellow man, trading, bargaining, law-making, propitiating, enslaving, conquering, exterminating, and every little increment in Power, he turned at once and always turns to the purposes of this confused elaborate struggle to socialise. To incorporate and comprehend his fellow men into a community of purpose became the last and greatest of his instincts. Already before the last polished phase of the stone age was over he had

become a political animal. He made astonishingly far-reaching discoveries within himself, first of counting and then of writing and making records, and with that his town communities began to stretch out to dominion; in the valleys of the Nile, the Euphrates, and the great Chinese rivers, the first empires and the first written laws had their beginnings. Men specialised for fighting and rule as soldiers and knights. Later, as ships grew seaworthy, the Mediterranean which had been a barrier became a highway, and at last out of a tangle of pirate polities came the great struggle of Carthage and Rome. The history of Europe is the history of the victory and breaking up of the Roman Empire. Every ascendant monarch in Europe up to the last, aped Caesar and called himself Kaiser or Tsar or Imperator or Kasir-i-Hind. Measured by the duration of human life it is a vast space of time between that first dynasty in Egypt and the coming of the aeroplane, but by the scale that looks back to the makers of the eoliths, it is all of it a story of yesterday.

Now during this period of two hundred centuries or more, this period of the warring states, while men's minds were chiefly preoccupied by politics and mutual aggression, their progress in the acquirement of external Power was slow—rapid in comparison with the progress of the old stone age, but slow in comparison with this new age of systematic discovery in which we live. They did not very greatly alter the weapons and tactics of warfare, the methods of agriculture, seamanship, their knowledge of the habitable globe, or the devices and utensils of domestic life between the days of the early Egyptians and the days when Christopher Columbus was a child. Of course, there were inventions and changes, but there were also retrogressions; things were found out and then forgotten again; it was, on the whole, a progress, but it contained no steps; the peasant life was the same, there were already priests and lawyers and town craftsmen and territorial lords and rulers doctors, wise women, soldiers and sailors in Egypt and China and Assyria and south-eastern Europe at the beginning of that period, and they were doing much the same things and living much the same life as they were in Europe in A.D. 1500. The English excavators of the year A.D. 1900 could delve into the remains of Babylon and Egypt and disinter legal documents, domestic accounts, and family correspondence that they could read with the completest sympathy. There were great religious and moral changes throughout the period, empires and republics replaced one another, Italy tried a vast experiment in slavery, and indeed slavery was tried again and again and failed and failed and was still to be tested again and rejected again in the New World; Christianity and Mohammedanism swept away a thousand more specialised cults, but essentially these were progressive adaptations of mankind to material conditions that must have seemed fixed for ever. The idea of revolutionary changes in the material conditions of life would have been entirely strange to human thought through all that time.

Yet the dreamer, the story-teller, was there still, waiting for his opportunity amidst the busy preoccupations, the comings and goings, the wars and processions, the castle building and cathedral building, the arts and loves, the small diplomacies and incurable feuds, the crusades and trading journeys of the middle ages. He no longer speculated with the untrammelled freedom of the stone-age savage; authoritative explanations of everything barred his path; but he speculated with a better brain, sat idle and gazed at circling stars in the sky and mused upon the coin and crystal in his hand. Whenever there was a certain leisure for thought throughout these times, then men were to be found dissatisfied with the appearances of things, dissatisfied with the assurances of orthodox belief, uneasy with a sense of unread symbols in the world about them, questioning the finality of scholastic wisdom. Through all the ages of history there were men to whom this whisper had come of hidden things about them. They could no longer lead ordinary lives nor content themselves with the common things of this world once they had heard this voice. And mostly they believed not only that all this world was as it were a painted curtain before things unguessed at, but that these secrets were Power. Hitherto Power had come to men by chance, but now there were these seekers seeking, seeking among rare and curious and perplexing objects, sometimes finding some odd utilisable thing, sometimes deceiving themselves with fancied discovery, sometimes pretending to find. The world of every day laughed at these eccentric beings, or found them annoying and ill-treated them, or was seized with fear and made saints and sorcerers and warlocks of them, or with covetousness and entertained them hopefully; but for the greater part heeded them not at all. Yet they were of the blood of him who had first dreamt of attacking the mammoth; every one of them was of his blood and descent; and the thing they sought, all unwittingly, was the snare that will some day catch the sun.

Section 3

Such a man was that Leonardo da Vinci, who went about the court of Sforza in Milan in a state of dignified abstraction. His common-place books are full of prophetic subtlety and ingenious anticipations of the methods of the early aviators. Durer was his parallel and Roger Bacon—whom the Franciscans silenced—of his kindred. Such a man again in an earlier city was Hero of Alexandria, who knew of the power of steam nineteen hundred years before it was first brought into use. And earlier still was Archimedes of Syracuse, and still earlier the legendary Daedalus of Cnossos. All up and down the record of history whenever there was a little leisure from war and brutality the seekers appeared. And half the alchemists were of their tribe.

When Roger Bacon blew up his first batch of gunpowder one might have supposed that men would have gone at once to the explosive engine. But they could see nothing of the sort. They were not yet beginning to think of seeing things; their metallurgy was all too poor to make such engines even had they thought of them. For a time they could not make instruments sound enough to stand this new force even for so rough a purpose as hurling a missile. Their first guns had barrels of coopered timber, and the world waited for more than five hundred years before the explosive engine came.

Even when the seekers found, it was at first a long journey before the world could use their findings for any but the roughest, most obvious purposes. If man in general was not still as absolutely blind to the unconquered energies about him as his paleolithic precursor, he was at best purblind.

Section 4

The latent energy of coal and the power of steam waited long on the verge of discovery, before they began to influence human lives.

There were no doubt many such devices as Hero's toys devised and forgotten, time after time, in courts and palaces, but it needed that coal should be mined and burning with plenty of iron at hand before it dawned upon men that here was something more than a curiosity. And it is to be remarked that the first recorded suggestion for the use of steam was in war; there is an Elizabethan pamphlet in which it is proposed to fire shot out of corked iron bottles full of heated water. The mining of coal for fuel, the smelting of iron upon a larger scale than men had ever done before, the steam pumping engine, the steam-engine and the steam-boat, followed one another in an order that had a kind of logical necessity. It is the most interesting and instructive chapter in the history of the human intelligence, the history of steam from its beginning as a fact in human consciousness to the perfection of the great turbine engines that preceded the utilisation of intra-molecular power. Nearly every human being must have seen steam, seen it incuriously for many thousands of years; the women in particular were always heating water, boiling it, seeing it boil away, seeing the lids of vessels dance with its fury; millions of people at different times must have watched steam pitching rocks out of volcanoes like cricket balls and blowing pumice into foam, and yet you may search the whole human record through, letters, books, inscriptions, pictures, for any glimmer of a realisation that here was force, here was strength to borrow and use.... Then suddenly man woke up to it, the railways spread like a network over the globe, the ever enlarging iron steamships began their staggering fight against wind and wave.

Steam was the first-comer in the new powers, it was the beginning of the Age of Energy that was to close the long history of the Warring States.

But for a long time men did not realise the importance of this novelty. They would not recognise, they were not able to recognise that anything fundamental had happened to their immemorial necessities. They called the steam-engine the 'iron horse' and pretended that they had made the most partial of substitutions. Steam machinery and factory production were visibly revolutionising the conditions of industrial production, population was streaming steadily in from the country-side and concentrating in hitherto unthought-of masses about a few city centres, food was coming to them over enormous distances upon a scale that made the one sole precedent, the corn ships of imperial Rome, a petty incident; and a huge migration of peoples between Europe and Western

Asia and America was in Progress, and—nobody seems to have realised that something new had come into human life, a strange swirl different altogether from any previous circling and mutation, a swirl like the swirl when at last the lock gates begin to open after a long phase of accumulating water and eddying inactivity...

The sober Englishman at the close of the nineteenth century could sit at his breakfast-table, decide between tea from Ceylon or coffee from Brazil, devour an egg from France with some Danish ham, or eat a New Zealand chop, wind up his breakfast with a West Indian banana, glance at the latest telegrams from all the world, scrutinise the prices current of his geographically distributed investments in South Africa, Japan, and Egypt, and tell the two children he had begotten (in the place of his father's eight) that he thought the world changed very little. They must play cricket, keep their hair cut, go to the old school he had gone to, shirk the lessons he had shirked, learn a few scraps of Horace and Virgil and Homer for the confusion of cads, and all would be well with them....

Section 5

Electricity, though it was perhaps the earlier of the two to be studied, invaded the common life of men a few decades after the exploitation of steam. To electricity also, in spite of its provocative nearness all about him, mankind had been utterly blind for incalculable ages. Could anything be more emphatic than the appeal of electricity for attention? It thundered at man's ears, it signalled to him in blinding flashes, occasionally it killed him, and he could not see it as a thing that concerned him enough to merit study. It came into the house with the cat on any dry day and crackled insinuatingly whenever he stroked her fur. It rotted his metals when he put them together.... There is no single record that any one questioned why the cat's fur crackles or why hair is so unruly to brush on a frosty day, before the sixteenth century. For endless years man seems to have done his very successful best not to think about it at all; until this new spirit of the Seeker turned itself to these things.

How often things must have been seen and dismissed as unimportant, before the speculative eye and the moment of vision came! It was Gilbert, Queen Elizabeth's court physician, who first puzzled his brains with rubbed amber and bits of glass and silk and shellac, and so began the quickening of the human mind to the existence of this universal presence. And even then the science of electricity remained a mere little group of curious facts for nearly two hundred years, connected perhaps with magnetism—a mere guess that—perhaps with the lightning. Frogs' legs must have hung by copper hooks from iron railings and twitched upon countless occasions before Galvani saw them. Except for the lightning conductor, it was 250 years after Gilbert before electricity stepped out of the cabinet of scientific curiosities into the life of the common man.... Then suddenly, in the half-century between 1880 and 1930, it ousted the steam-engine and took over traction, it ousted every other form of household heating, abolished distance with the perfected wireless telephone and the telephotograph....