

Random Reflections

By "Irresponsible"

I MET a man a little while ago, an artist, writer, and one-time engineer, who informed me that there were no first-class minds in any of the arts to-day; they had all been absorbed by the sciences. This is one of those statements whose implications are more interesting than its assertions. Of course, on the face of it, it is open to several objections. We may deny that there are no first-class minds in art; or, admitting their absence, we may deny the existence of any first-class minds in science. Understanding by first-class, men of the Faraday, Darwin, Maxwell, Kelvin level, without ascending to world-shaking prodigies like Isaac Newton, we may very well ask what first-class minds exist in science at the present day. The late French mathematician, Henri Poincaré, was undoubtedly first-class—still, he is the late Henri Poincaré. Who else is there?

The average level of intelligence among scientific men at the present day is distinctly high, rather higher, perhaps, than the level among artists. And, to go off on a side issue for a moment, I had received the personal impression from my acquaintance with both artists and men of science, that on the whole the scientific man had a stronger character. He seemed to me calmer and better balanced. But since this war started (I knew the war would crop up somehow) I've become doubtful. Some of these frantic German professors! For instance, a celebrated professor at Heidelberg, a man whose work I have long admired, and who has trained English students by the score, advocates the destruction of Westminster Abbey, together with the tombs of the great dead of England. It reads like hysteria; where is the calm well-balanced character, elevated and fortified by a life-long devotion to science? And his voice is not the only one. There are enough of them to form a chorus.

I am afraid that scientific men have degenerated. About one hundred years ago another big war was raging, but it was between France and England. While it was going on the French Academy of Sciences bestowed a medal upon an English scientific man for his distinguished services to science. One cannot help admiring that. That is exactly the attitude which becomes a scientific man, and which dignifies science. We must preserve that spirit. We must have a few men who remember first that they are members of a collection of curious little two-legged animals without feathers, called the human race, and only secondly that they happen to exist on some particular corner of the planet earth, that common dwelling place of all their kind. An excessively patriotic man, like an excessively anything else, is merely a man with a defective sense of proportion. And a defective sense of proportion is—well, it's a pretty generally accepted definition of lunacy. But that is a side issue. I was talking about the arts and sciences. I don't think it can be shown that first-class minds at the present day take up science rather than art. As I have said, I am, to start with, a little doubtful about the existence of the first-class minds. But letting that pass, and supposing that by analyzing the psychology of a scientific man's work one can show that he is a really, in temperament and intimate mentality, an artist. Suppose he is invariably interested, not in the results he obtains, but in the beauty of the methods by which he obtains those results. Roughly speaking, that would be different from the scientific mind as it is generally understood. Well, I think there are such scientific men. But I think there are quite as many artists who are more interested in results than in beauty. Take a writer like H. G. Wells. He is particularly interested in writing novels which illustrate the influence of social surroundings upon various characters, including in social surroundings other human beings. In any particular case such an investigation is scientific in character, and in reading Mr. Wells one certainly gets the impression that he is much more interested in conducting that investigation faithfully and vividly than he is in producing a finished and beautiful piece of literature. He is distinctly more interested in what he is saying than in the manner in which he says it. He is a scientific man using as his medium the novel rather than the psychological or sociological treatise.

Mr. Wells does not stand alone. Various other names could be mentioned. Personally I think this extension of the scope of the novel a highly important and desirable phenomenon. Scientific investigations can be presented in the form of a novel which could not be effectively presented in any other way. Before a sound scheme of society can be built up we must know an immense amount about personal and social psychology. Besides the professor, we require for the proper investi-

gation of these two subjects the man of insight and imagination. We require the novelist. Because his methods are, in a way, looser and more general, they will probably prove more valuable. And, a little fact not without its importance, he can influence an incomparably greater public. So that, in view of the existence of this kind of novel, and of one or two other indications of a similar kind, I should feel disposed to say that artists and men of science share the arts and the sciences pretty equally. To some extent the two things merge into each other. There are stylists in science. To me, for instance, there is some resemblance in style between the work of Abel, the Norwegian mathematician, and that of Chopin, the Polish musician. But I admit that I experience difficulty in making the resemblance clear to other people.

Dark Days and Forest Fires

By C. F. Talman

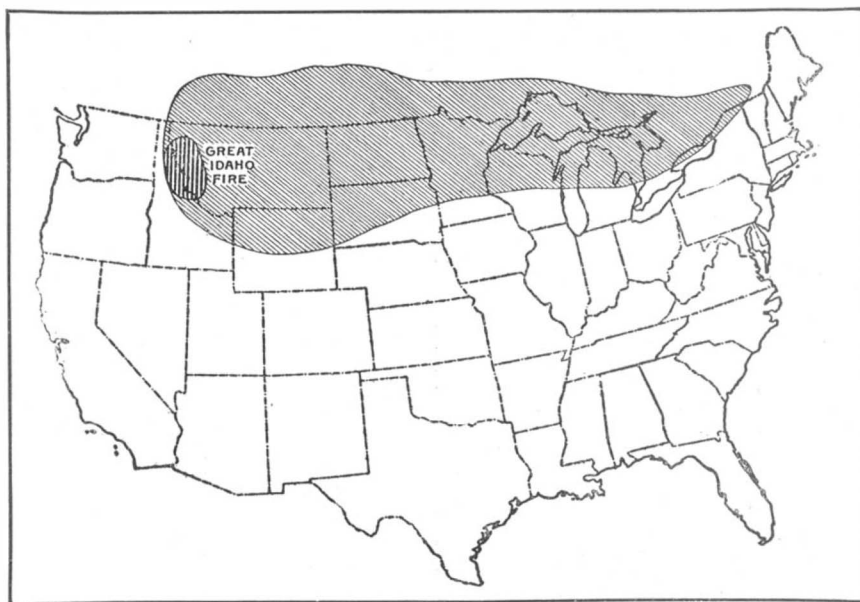
INSTANCES of daytime darkness are recorded in the old chronicles along with such other "prodigies" as multiple suns, showers of blood, and warring armies in the sky—all of which can easily be identified to-day with well-known meteorological phenomena (parhelia, rain reddened with desert dust, and the aurora). The two famous cases mentioned in the Bible—the plague of darkness in Egypt and the darkness attending the crucifixion—illustrate the fact that such occurrences were once universally assumed to be miraculous.

Some of the early cases of daytime darkness mentioned in history are doubtless attributable to solar eclipses, and must, accordingly, have been restricted to a small part of the earth's surface, and have been of but a few minutes' duration. The majority of the famous "dark days" were, however, the result of an

Canada is evidently related to the fact that practically all barometric depressions ("lows"), with their attendant whirl and indraft of the surface air, pass down the St. Lawrence Valley on their way to the ocean, and usually become intensified and sharply defined in this region. The smoke from a conflagration anywhere on the periphery of a "low" is drawn into the vortex along more or less converging lines, and at the same time rises to a considerable altitude. Eddies in the circulation of the "low" will result in a dense accumulation of the smoke in places, and this may occur above the level of the lower clouds, which thus mask the cause of the phenomenon. Hence the startling effect of darkness in the daytime, often with little or no turbidity of the air near the earth's surface. Mere smokiness of the air near the ground or a fog heavily charged with smoke (as in the case of the London fogs), however great the obscurity produced, would hardly be placed in the same class with the awe-inspiring dark days of the chroniclers. If, however, showers occur during one of these occurrences, a large amount of soot is likely to be brought down, and thus we have another "prodigy"; viz., "black rain." A very recent case of this sort is reported in the *Quarterly Journal of the Royal Meteorological Society* for October, 1912; during a thunderstorm in Eastern Hampshire darkness almost like that of night occurred in the early afternoon, and inky rain fell. The phenomenon was due to soot carried from London, fifty miles away.

When the pall of smoke is rather thin a certain amount of sunlight struggles through, and owing to the same process that gives us the golden glow of sunset a yellow or coppery tinge is cast over the landscape. This effect has been noted in connection with several dark days, including the most famous of all, that of May 19th, 1780. It was the principal feature of the dark day of September 6th, 1881, in New England, which is accordingly known as "the yellow day."

The great Idaho fire of August, 1910, was responsible for dark days over an area larger than in any other case on record in this country. The accompanying chart, from the *Forest Service Bulletin* above mentioned, shows the area in which artificial light was used in the daytime, but smoke was observed far beyond these limits. The British ship "Dunfermline" reported that on the Pacific Ocean, 500 miles west of San Francisco, the smell of smoke was noticed, and haze prevented observations for about ten days.



Area in which dark days occurred, caused by smoke from the great Idaho fire, August 20th to 25th, 1910.

abnormal accumulation of smoke or dust in the air, sometimes arising from burning forests, moors, or prairies, sometimes from volcanic eruptions, and in many instances covering vast areas of the globe.

In a recent publication on "Forest Fires" (*Forest Service Bulletin 117*), Mr. F. G. Plummer gives the following list of dark days in the United States and Canada:

- 1706—May 12th, 10 A. M., New England.
- 1716—October 21st, 11 A. M. to 11:30 A. M., New England.
- 1732—August 9th, New England.
- 1762—October 19th, Detroit.
- 1780—May 19th, New England. (Black Friday. The Dark Day.)
- 1785—October 16th, Canada.
- 1814—July 3rd, New England to Newfoundland.
- 1819—November 6th to 10th, New England and Canada.
- 1836—July 8th, New England.
- 1863—October 16th, Canada. ("Brief duration.")
- 1868—September 15th to October 20th, Western Oregon and Washington.
- 1881—September 6th, New England. (The Yellow Day.)
- 1887—November 19th, Ohio River Valley. ("Smoky Day.")
- 1894—September 2nd, New England.
- 1902—September 12th, Western Washington.
- 1903—June 5th, Saratoga, N. Y.
- 1904—December 2nd, 10 A. M., for 15 minutes, Memphis, Tenn.
- 1910—August 20th to 25th, Northern United States, from Idaho and Northern Utah eastward to St. Lawrence River.

Forest fires are the common cause of dark days in this country. The fact that such days are most frequent in the Northeastern United States and Eastern

Restoring Fatigued Muscles

A VERY ingenious physiological method of increasing the yield of labor from any given group of muscles is described in the *Deutsche Revue*. According to an abstract in *Die Umschau*, the author, Th. Weber, claims that in practice a gain of from 22 to 40 per cent is obtainable in the amount of work done. The device is

extremely simple. When the given group of muscles has reached the point of exhaustion, due to the accumulation of the products of fatigue, they are allowed to rest, while an entirely different muscle group is set to work vigorously. The energetic contraction of these muscles causes an increase in heart action and circulation, and the strengthened current of blood thus sent to all parts of the body partially restores the working power of the first group of muscles by carrying away fatigue toxins and supplying oxygen.

Automobile Fire Department Outfits

AN automobile fire engine of improved type was lately delivered by an English maker to Athens on the order of the Greek government. The present outfit, although very effective, is equipped with a 60 horsepower engine and turbine pump, but it is light enough to run on rubber-tired wheels. Another outfit produced by the same concern consists of an automobile hook-and-ladder supply car, seven of which are now in use by the London fire brigade. They are fitted with 30-gallon chemical tanks, hose reel and telescoping ladder, and are especially good for first aid work. It will be observed from the first-mentioned outfit that the rotary pump is coming into favor for fire engines. Such pumps are also in use on the Paris fire engines.

Darwin Relics.—The late William Erasmus Darwin, who was a son of Charles Darwin, recently left a number of relics of his famous father to his nephew, with the request that they be kept permanently in the possession of the Darwin family. These relics include the family portraits, many medals that had been presented to his father, the letters written home by him while on the "Beagle" expedition and two early sketches of "The Origin of Species."