tioned decisions of the lower Federal courts, the man who first produces a novel true chemical compound can acquire by a patent so absolute a monopoly upon that true chemical compound that for seventeen years he can prevent any one from producing it by any process whatsoever, including all processes which are entirely unlike his own process. Surely nothing could be more irrational than the fact that upon producers of true chemical compounds, including medicinals and pharmaceuticals such as those listed above, were, and are, bestowed the tightest patent monopolies on the face of the earth, founded, mind you, upon subject-matters which can not be "inventions" of man, but which are "inventions" of nature alone! And since such absolute patent monopolies undoubtedly discourage the developments of novel processes for the productions of patented true chemical compounds, they can hardly be said "To Promote the Progress of Science and Useful Arts."

Fortunately, the U. S. Supreme Court has never explicitly affirmed any one of these egregious decisions of the lower Federal courts, nor has it ever categorically declared true chemical compounds, as such, to be patentable, so that a single decision of that tribunal will suffice to dispose of these "earth and a slice of Heaven" patent monopolies. But an amendment of our statutory patent laws, expressly excluding from intrinsic patent protection all true chemical compounds, would accomplish the same result just as effectually and more expeditiously.

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SPACE PERCEPTION BY RADIO

MOST people who have bought an improved radio junk their old one. That is not always wise, as will be shown. First find out whether your old radio amplifies better the low or the high pitches prevailing in music. Then adjust your new radio, which often permits it, so that the other pitches are favored by its amplification. Now, if you have a very large room, put one radio in one corner and the other in the diagonal corner, and seat yourself near the middle. If you have only small rooms, choose two with a connecting door open, place your radios as far apart as possible and seat yourself near the door in the larger of the two rooms. A little experimenting may be called for. You will more or less readily observe a strange effect. Close your eyes or simply forget what you actually see with them. It seems that you have before you the orchestra with the musicians so seated that the highest pitched instruments are on one side of the stage, the lowest pitched on the other side, and the middle instruments ranged between accordingly.

If it is a mixed chorus you are listening to, the female singers seem to be on one side of the stage, the male singers on the other side. Or if it is a duet of a soprano and a basso of the Metropolitan Opera, you seem to be located between the woman and the man. In some cases, though, the peculiar voice quality of the basso singer may diminish the strength of this spatial illusion by "splitting," so to speak, the basso's voice into a lower and an upper component. It goes without saying that you can have the effect only if you have two fairly good ears. If you are deaf or hard of hearing on one of your ears, you will try in vain.

The whole effect would be a very small *esthetic* addition, if any, to what you can get with a single radio, although in any case it would be interesting enough. But there is something else to be mentioned. As soon as you begin to differently *localize* the higher and lower sounds, you notice that the ease with which you *analyze* the compound sound is enhanced, the keeping apart of the components of any chord in your musical apprehension is a matter of less effort to your attention. When the tones say to you, "I am here and I am there" you become more readily aware of their separate existence. Now, whoever knows anything about the psychology of music knows that the ability to analyze, to overcome the fusion to which the simultaneous tones are subject in the untrained listener, is one of the greatest assets for the appreciation of our modern highly complex music. The method above described is therefore a distinct aid for getting the maximum of esthetic appreciation. If you have two good ears, why not utilize fully the possession of both?

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MICROBIOLOGY OF COAL

A STUDY of the biological decomposition of coal has been under investigation in the Departments of Fuel Technology and Bacteriology of the Pennsylvania State College for several months to determine the types of microorganisms that can decompose coal, to study the changes occurring in solutions containing humic acids prepared from bituminous coal and to examine the technical and economic aspects of such changes.

While various investigators have established the presence of microorganisms in coal, an appreciable consumption of coal substance by microbial activity has not previously been recorded in the scientific literature.

For the present experiments coal solutions proved to be an excellent substrate for cultivating bacteria. These solutions were prepared from the alkali-soluble "humic acids" resulting from the oxidation of bituminous coal. The basic substrate for the biological experiments was a 2 per cent. humic acid solution. Microorganisms of the order of true bacteria, fungi and actinomyces were found to grow on liquid and solid