

and above the effects due to the components taken separately can be traced at temperatures far higher than the critical point, and the indicated changes in the polarisation of the scattered light are also easily observed.

It is clear that the case of liquids which are completely miscible at ordinary temperatures stands on the same footing as that of imperfectly miscible liquids above the critical temperature, and the recent observations of W. H. Martin on this point (*Jour. Phy. Chem.*, Jan. 1922) agree with the indications of the theory outlined above.

I may take this opportunity of directing attention to a very important result observed in experiments on light-scattering in liquids conducted by Mr. Seshagiri Rao and the writer. It is found that the molecular anisotropy which results in a scattering of unpolarised light is noticeably a function of the frequency of the incident light. This indicates that the anisotropy is really due to the difference of the optical frequencies of the molecule in different directions, a conclusion which has a bearing on the recent interesting work of Havelock (*Proc. Roy. Soc.*, May 1922). Debye and others have suggested that some molecules possess an appreciable permanent electric moment, and would thus exercise perceptible orienting influences on each other even in the gaseous and liquid states. Indications are already forthcoming that this may exercise an observable influence on the phenomena of molecular scattering of light.

Finally, it may be mentioned that a very carefully carried out series of experiments on the light-scattering in ether, benzene, and normal pentane, over a large range of temperatures above and below the critical temperature, has confirmed quantitatively the Einstein-Smoluchowski theory of molecular scattering of light.

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Calcutta, May 25, 1922.

#### Transcription of Russian Names.

MR. DRUCE'S letter in NATURE of June 17, p. 777, makes little of my typographical objection to a Czech transcription for the names of Russian men of science, by saying that NATURE and other journals already employ letters with diacritical marks. For my part, I venture to estimate that not one in twenty English newspapers has Czech type among its founts, or, if it had, would know how to use it in transcription. Are, then, Russian scientific names to be rendered on one system in NATURE and on another in almost every other newspaper—or even book? And are Russian scientific names to be rendered differently from Russian literary and musical names—or place-names?

Nobody questions that it is possible, and indeed easy, to transliterate Russian into Czech, all Slavonic tongues being closely akin. But is it more helpful to Britons to render ч by ě than by ch, or ъ by c than by ts, even though you save a letter by doing so? (I wonder how many Britons would pronounce this "c" correctly!) Czech journals naturally transcribe Russian names into Czech, but that seems to be no reason why journals in other languages should do so.

Mr. Druce, by the way, ignores my remark that Serbo-Croatian, with its ready-made official system of transliterating Cyrillic into Latin characters, has as good a claim as Czech, if a Slavonic language is to be used for this purpose.

Surely what is wanted in this country to replace the old conventional French and German (and hybrid) forms of Russian names is not a Croat nor a

Czech system, but an intelligible British system of transcription, uniform for all Russian names alike: and this we have ready-made in the R.G.S. II. system (obtainable at any of the geographical booksellers, or at the Royal Geographical Society). Why not use it?

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#### The Influence of Science.

THE defect of the disappearance of Greek from scientific education makes itself felt in the treatment of the history of science (NATURE, June 24, p. 801). The controversy between Galileo and the Inquisition was carried out with pretended hostility, but amicably in reality in the manners of good scientific society, as an academic university disputation on an agreed accepted thesis, taken from Plutarch's "Aetia Physica," the source of such disputations as "An detur vacuum?" or "de tempore," or whether the tide is due to the influence of the moon.

The Pythagoreans were prepared to maintain against all comers that the sun was the centre of our cosmos, in opposition to the Stoic philosophers; and so on for other subjects of disputation in the University of Athens.

Mr. Lones, of the Patent Office, has retrieved for us at last the passages in "De caelo" and elsewhere, of Aristotle that set Galileo to make a test by experiment, with the two weights dropped from the Campanile of Pisa, of density such as not to be affected appreciably by the resistance of the air. The weights struck the ground with one thud apparently; but if Galileo had thrown himself over after, his thud would have been distinctly later.

Because Aristotle was discussing the terminal velocity of rain and hailstones, or even a meteoric stone, from a height high up in the air, the ascent of a bubble in air, or else in water, compared with a stone sinking; he had no air-pump except his lungs, he could not be certain whether air was really a substance in Nature.

"Don'ts for Students in Science and History," compiled by G. S. Boulger (Tract 74, Catholic Truth Society), should be consulted before accepting the common version of many similar controversial stories. Huxley is quoted, writing to Prof. Mivart in 1885: "I gave some attention to the case of Galileo when I was in Italy, and I arrived at the conclusion the Pope and College of Cardinals had rather the best of it." And so the Inquisition was entitled to a parting shot of jubilation, as it would be again to-day on the doctrine of Relativity.

The rival theories of the Greek philosophers could serve as dialectical exercises till the crucial experiment of the "optic tube of Fiesole"; and here Galileo destroyed all previous uncertainty by his use of the telescope, the most powerful instrument in history for revolutionising the ideas of science.

G. GREENHILL.

Staple Inn. June 27, 1922.

[Fortunately, inability to maintain a scientific thesis before philosophic or other authorities no longer involves such penalties as those to which Galileo was subjected. The whole purpose of the article to which Sir George Greenhill refers was to show that the freedom of experimental inquiry thus secured had far-reaching social and intellectual consequences, and we judge from his last paragraph that he agrees with this view.—EDITOR, NATURE.]