using names that have more or less similarity. Its purpose, as stated, was 'to illustrate what the present system is leading to.' Names of formations and dates of publication were given for this purpose.

However, Director G. M. Dawson, in his recent communication in SCIENCE, states that it is not apparent from my remarks that Cache Creek group of formation holds priority. I do not see how any other construction can be given to the third paragraph of my letter. It is there briefly shown that Dr. Selwyn described the Upper and Lower Cache Creek group in 1872, and that in 1896 Dawson applied the name Cache Creek formation to both series. It is further evident, from the names and dates given, that the Cache Creek group has priority over either Cache Valley group or Cache Lake beds.

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NOTES ON INORGANIC CHEMISTRY.

AT the meeting of the Chemical Society (London) on March 16th Professor Dewar presented a paper on the boiling point of hydrogen, which is printed in the *Proceedings*. In obtaining liquid hydrogen great difficulty is experienced owing to the presence of small traces of air. Quantities amounting to only one thousandth of one per cent. accumulate in the solid state and eventually choke the nozzle of the apparatus, necessitating the abandonment of the operation. Dewar obtained 250 cubic centimeters of colorless liquid hydrogen and used this for the determination of the boiling point. His previous observations, using a platinum resistance thermometer, gave the boiling point as —238°. In these latest experiments a possible constant error in the use of the platinum thermometers was checked by using a rhodium-platinum resistance thermometer, the alloy containing ten per cent. rhodium. Examination had shown that alloys, unlike pure metals, showed no sign of becoming perfect conductors at absolute zero. The rhodium-platinum thermometer gave the boiling point of hydrogen as —246°, and this the author considers to be more accurate than the previous determinations, especially as it agrees very fairly with the boiling point calculated from the results of Wröblewski and of Olszewski.

IN an addendum dated March 17th Dewar gives the first results from a constant-volume hydrogen thermometer working under diminished pressure. This gave —252° as the boiling point of hydrogen. The three results in absolute temperature are: (1) platinum resistance thermometer, 35°; (2) rhodium-platinum resistance thermometer, 27°; (3) hydrogen thermometer, 21°. From this Dewar states that it appears that the boiling point of hydrogen is really lower than was anticipated.

IN the *Journal of the Society of Chemical Industry* the use of titanium compounds in the dyeing industry is discussed, and it is shown that in many cases they may be successfully utilized. Especially are they valuable as mordants for alizarin yellows and oranges, and for basic dyestuffs. The tannate is not unstable towards acids and little influenced by light, and according to the author is valuable as a water-color. As experiments progress it is by no means impossible that many of the elements which now have little or no practical value may find uses, and work along this line offers much prospect of success.

IN the last number of the *Zeitschrift für anorganische Chemie*, Piccini publishes the full details of the preparation of cesium manganese alum and a complete description of the salt. This is of more than passing interest from the fact that it is the first salt of trivalent manganese whose constitution is not open to question. Manganese alums are described in older chemical literature, but efforts to repeat their preparation have not been successful. By utilizing the electric current to oxidize manganese sulfate, Piccini forms the alum without difficulty, and in crystals large enough for a complete crystallographic study. It is thus settled that in manganic compounds the manganese is trivalent, and hence allied to aluminum, chromium and iron. From a private communication I learn that other manganese alums have been prepared and studied by Professor Christensen, and will shortly be described.

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