Table 2. *Comparison of observed and calculated intensities of the* α *phase of* Ti_3Au *and* V_3Au, *neglecting impurity* (O, N, C) *contents*

	α Ti_3Au		α V_3Au	
hkl	I_o	I_c	I_o	I_c
100	41	55	36	52
110	48	48	52	45
111	100	100	100	100
200	43	48	64*	48
210	26	25	25	24
211	27	20	26	19
220	40	31	41	30
221, 300	18	13	14	14
310	13	9	12	8
311	33	36	42	36
222	10	11	14	11

* This reflexion might be reinforced by the presence of some residual β phase the strongest reflexion of which, 211, coincides with 200 of the α phase.

the observed and calculated intensities of the α phases of Ti_3Au and V_3Au and indicates the correctness of the proposed structure. Intensities were measured with an X-ray powder diffractometer and calculated according to the formula $I \sim p|F_{hkl}|^2(1+\cos^2 2\theta)/(\sin^2\theta\cos\theta)$.

Our observations explain discrepancies in the literature. Laves & Wallbaum (1939) reported Ti_3Au to have the Cu_3Au-type structure, which was not confirmed by: Duwez & Jordan (1952), Pietrokowsky, Frink & Duwez (1956), Stolz & Schubert (1962). Probably the titanium available in 1939 contained enough impurities to suppress the formation of β Ti_3Au. For V_3Au Wood & Matthias (1956) mention the existence of two 'very very weak' extra lines. The d values were 2·28 and 1·44 Å. Their origin was left unexplained. $d = 2{\cdot}28$ Å corresponds exactly to the strongest reflexions of α V_3Au.

Impurity stabilization of special structure types is well known. Stadelmaier (1961) examined ternary phases of T-metals (Mn, Fe, Co, Ni, Pd, Pt), B-metals (Mg, Zn, Cd, Hg, Al, Ga, Ge, In, Sn, Pb), and metalloids (B, C, N). He found that the Cu_3Au-type structure could be stabilized by carbon and nitrogen and proposed that the metalloid partly fills the octahedral hole of the ($L1_2$) structure, yielding perovskite-type structures in extreme cases.

For α Ti_3Au, the radius of the octahedral hole equals 0·60 Å, which agrees well with a radius of the O atom (0·60 Å) as shown by Ehrlich (1941) for solutions of oxygen in metallic titanium. That in the Cu_3Au-type structure the O occupies the central octahedral hole is also supported by detailed intensity discussions to be published elsewhere.

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Notes and News

Announcements and other items of crystallographic interest will be published under this heading at the discretion of the Editorial Board. The notes (in duplicate) should be sent to the General Secretary of the International Union of Crystallography (D. W. Smits, Mathematisch Instituut, University of Groningen, Reitdiepskade 4, *Groningen, The Netherlands). Publication of an item in a particular issue cannot be guaranteed unless the draft is received* 8 *weeks before the date of publication.*

International Union of Crystallography Acta Crystallographica

The Executive Committee of the Union and the Commission on *Acta Crystallographica* regret to announce the resignation of Professor I. Nitta as Co-editor of *Acta Crystallographica*. Professor Nitta was appointed in 1952, to aid in the editing of papers originating in Japan and its neighbourhood, and the Union is greatly indebted to him for his work in this field and his wise counsel on other matters.

The Executive Committee has approved the appointment of Professor S. Miyake, of the Institute for Solid State Physics of the University of Tokyo, as successor to Professor Nitta.

Symposium on OD-Structures and Related Problems

A symposium on OD-structures; Structure and twinning; and Superstructures and substructures; is being organized by the Slovenská Akadémia Vied and the Deutsche Akademie der Wissenschaften zu Berlin. The symposium will take place in Smolenice, Czechoslovakia, from 19 to 23 May 1964, and will be limited to about 35 participants. Further information may be obtained from Professor K. Boll-Dornberger, Institut für Strukturforschung DAW, Rudower Chaussee, Berlin-Adlershof, Germany.