

TABLE 3
TABLE TO SHOW METHOD OF CALCULATION OF ANGLES
(See *Winkeltabellen*, pp. 18, 19 & 19a).

Mineral Higginsite Elements $p_0 = 1.272$ $\lg p_0 = 010449$ $q_0 = .7940$ $\lg q_0 = 989982$	Let. Symb. pq	1	2	3	4
		$\lg p$	$\lg q$	$\lg x = \lg \frac{p_0}{1 + \lg p}$	$\lg y = \lg \frac{q_0}{2 + \lg q}$
	$\left[\begin{array}{c} 0 \ 1 \\ p \frac{1}{2} \\ r \frac{1}{2} \end{array} \right]$	0	0	010449	989982
		969897	0	980346	989982
		017609	030103	028058	020085
5	6	7	8	9	10
$\lg \frac{p_0}{q_0} = \lg \tan \varphi$ 3 - 4	$\lg \sin \varphi$ from 8	$\lg \cos \varphi$ from 8	φ from 5	$\lg \frac{p_0}{\sin \varphi} = \lg \frac{q_0}{\cos \varphi}$ $= \lg \tan \rho$ 3 - 6 = 4 - 7	ρ from 9
020467	992858	972381	58°02'	017591 017601	56°18'
990364	979605	989233	38 42	000741 000749	45 30
007973	988573	980595	50 14	039485 039490	68 04

LISTS OF THE ORTHORHOMBIC MINERALS INCLUDED IN GOLDSCHMIDT'S WINKELTABELLEN. EDGAR T. WHERRY. *Washington, D. C.*—As the prism zone is on the whole most characteristic of orthorhombic crystals, it has seemed desirable to arrange the minerals of this system in the order of increasing values of axis *a*.

ORTHORHOMBIC MINERALS

	<i>a</i>	<i>c</i>	Page		<i>a</i>	<i>c</i>	Page
Uranophanite	0.31	1.01	355	Topaz	0.53	0.95	346
Polycrasite (Poly- kras)	0.35	0.31	271	Pucherite	0.53	1.17	274
Euxenite	0.36	0.30	137	Phosphosiderite	0.53	0.88	266
Molybdite	0.39	0.47	243	Jordanite	0.54	1.02	191
Columbite	0.40	0.36	101	Yttrotantalite	0.54	1.13	371
Oanneroedite (An- nerödite)	0.40	0.36	45	Rammelsbergite	0.54	—	291
Flinkite	0.41	0.74	147	Samarskite	0.55	0.52	309
Monticellite	0.43	0.58	253	Struvite	0.55	0.62	332
Fayalite	0.46	0.58	252	Mascagnite	0.56	0.73	232
Tephroite	0.46	0.59	254	Bertrandite	0.57	0.60	64
Hjelmite	0.46	1.03	177	Hopeite	0.57	0.47	180
Olivine	0.47	0.59	251	Beryllonite	0.57	0.55	66
Ardenite	0.47	0.31	53	Mica (Glimmer)	0.58	3.29	161
Chrysoberyl	0.47	0.58	97	Dyscrasite (Anti- monsiber)	0.58	0.67	49
Aeschynite	0.48	0.67	31	Argentopyrite (Silber kies)	0.58	0.55	318
Diaphorite	0.49	0.73	115	Stromeyerite	0.58	0.97	330
Pyrostilpnite (Feuer- blende)	0.50	0.70	145	Chalcocite (Kupfer- glanz)	0.58	0.97	205
Wavellite [old data]	0.50	0.38	362	Sternbergite	0.58	0.84	329

Caracolite	0.58	0.42	88	Langite	0.79	0.42	212
Iolite (Cordierit)	0.59	0.56	103	Daviesite	0.79	0.48	112
Niter (Kalialpeter)	0.59	0.70	194	Hambergite	0.80	0.73	169
Bromlite (Alstonit)	0.59	0.74	34	Chalcostibite (Wolfs-			
Cotunnite	0.59	1.19	105	bergit)	0.80	0.63	367
Fischerite	0.59	—	147	Mendipite	0.80	—	237
Carnallite	0.60	1.39	88	Sulfur (Schwefel)	0.81	1.91	313
Frieseite	0.60	0.74	153	Barite (Baryt)	0.82	1.31	60
Thenardite	0.60	1.25	341	Bismite [trigonal?]	0.82	1.60	70
Orpiment (Auripig-				Jamesonite	0.82	—	187
ment)	0.60	0.67	57	Thermonatrite	0.83	0.81	341
Witherite	0.60	0.73	365	Pinakiolite	0.83	0.59	267
Euchroite	0.61	1.04	133	Haidingerite	0.84	0.99	168
Strontianite	0.61	1.04	331	Prehnite	0.84	1.12	272
Cerussite	0.61	0.72	89	Brookite	0.84	0.94	80
Schrockeringerite	0.61	—	313	Manganite	0.84	0.54	230
Zoisite	0.62	0.34	379	Kornerupite	0.85	—	200
Aragonite	0.62	0.72	51	Serpierite	0.86	1.36	316
Stephanite (Melan-				Prismatite	0.86	0.83	273
glanz)	0.63	0.69	233	Mazapilite	0.86	0.99	233
Kentrolite	0.63	0.90	197	Strengite	0.87	0.98	330
Descloizite	0.64	0.80	113	Scorodite (Skorodit)	0.87	0.96	321
Polyhalite	0.64	—	270	Triphylite	0.87	1.05	350
Variscite	0.65	—	358	Enargite	0.87	0.82	127
Nesquehonite	0.65	0.46	248	Dufrenite (Kraurit)	0.87	0.43	201
Atacamite (Atakamit)	0.66	0.75	56	Pseudobrookite	0.87	0.89	274
Lawsonite	0.67	0.74	216	Nadorite	0.89	1.39	245
Ilvaite (Lievrit)	0.67	0.44	220	Zinkosite	0.89	1.41	374
Loellingite (Löllin-				Anhydrite	0.89	1.01	44
git)	0.67	1.23	223	Spodiosite	0.89	1.58	325
Lithargite (Bleioxyd)	0.67	0.98	72	Zinckenite	0.90	1.14	372
Sundtite	0.68	0.45	333	Ochrolite	0.91	2.01	250
Arsenopyrite (Arsen-				Hemafibrite (Häma-			
kies)	0.68	1.19	55	fibrit)	0.91	1.74	68
Glaucodotite (Glauc-				Reddingite	0.91	1.05	293
kodot)	0.69	1.19	160	Tellurite	0.92	0.93	339
Acanthite (Akanthit)	0.69	0.99	32	Caledonite	0.92	1.41	87
Erythrosiderite	0.69	0.72	132	Danburite	0.92	0.88	108
Staurolite	0.69	0.98	327	Goethite (Göthit)	0.92	0.61	162
Epigenite	0.69	—	131	Cosalite	0.92	1.46	104
Tungstite	0.70	1.61	352	Synadelphite	0.92	1.72	337
Hydrocyanite	0.71	1.26	186	Gerhardtite	0.92	1.16	156
Polymignite	0.71	0.51	271	Stilbite (Desmin)	0.93	0.76	113
Harstigit	0.71	1.01	171	Diasporite	0.94	0.60	116
Laurionit	0.73	0.83	214	Bournonite	0.94	0.90	76
Alloclasite (Alloklas)	0.74	0.55	34	Dufrenoy'site	0.94	1.53	120
Klaprothite	0.74	—	199	Krennerite	0.94	0.51	202
Marcasite (Marka-				Stylotypite	0.94	—	331
sit)	0.76	1.21	232	Meneghinite	0.95	0.69	238
Euchlorite	0.76	1.88	133	Olivenite	0.95	0.68	251
Fluellite	0.77	1.87	148	Lanthanite	0.95	0.90	213
Eosphorite	0.78	0.52	128	Uranothallite	0.95	0.78	355
Brochantite	0.78	0.49	393	Newberyite	0.95	0.94	249
Childrenite	0.78	0.53	93	Sartorite (Sklero-			
Celestite (Cölestin)	0.78	1.28	98	klas)	0.96	0.77	320
Calamine, Hemimor-				Libethenite	0.96	0.70	220
phite (Kieselzink-				Emplectite (Emple-			
erz)	0.78	0.48	197	ktit)	0.96	0.77	126
Lecontite	0.78	1.53	218	Bismuthinite (Wis-			
Valentinite	0.79	1.41	357	muthglanz)	0.97	0.99	364
Anglesite	0.79	1.29	42	Adamite	0.97	0.72	30

Patrinite.....	0.97	—	258	Thomsonite.....	0.99	1.01	342
Sillimanite.....	0.97	—	319	Leucophanite (Leu-			
Andorite.....	0.98	0.87	41	kophan).....	0.99	0.67	219
Goslarite (Zinkvit-				Ludwigite.....	0.99	—	224
riol).....	0.98	0.56	375	Cerite.....	1.0-	0.81	89
Natrolite.....	0.98	0.35	246	Uranospinite.....	1.0-	1.46	355
Morenosite (Nickel-				Geocronite (Geo-			
vitriol).....	0.98	0.57	249	kronite).....	1.01	0.58	156
Nagyagite.....	0.98	1.78	245	Enstatite [group] ..	1.03	0.59	281
Gismondite.....	0.99	0.94	157	Hydromagnesite ..	1.04	0.47	186
Andalusite.....	0.99	0.70	40	Kermesite (Anti-			
Guarinite.....	0.99	0.74	166	monblende).....	1.32	0.85	46
Epsomite.....	0.99	0.57	132	Polybasite.....	1.73	1.58	270
Astrophyllite.....	0.99	4.70	55	Epididymite.....	1.74	1.85	128
Stibnite (Antimon-				Humite.....	2.20	1.08	181
glanz).....	0.99	1.02	47				

REPRESENTATIVES OF CLASSES WITH DIMINISHED SYMMETRY

CLASS HEMIMORPHIC

Struvite.....	0.55	0.62	Calamine, hemimorphite..	0.78	0.48
Bertrandite.....	0.57	0.60	Prehnite.....	0.84	1.12

CLASS SPHENOIDAL

Epsomite.....	0.99	0.57
Leucophanite.....	0.99	0.67
Edingtonite.....	1.0-	0.95

PERI-ORTHORHOMBIC

Mica group.....	Monoclinic
Polybasite.....	Monoclinic

NOTES AND NEWS

A CALCIUM PHOSPHATE WITH RATIOS BETWEEN THOSE OF TRIPLITE AND SARCOPSIDE. EDW. F. HOLDEN. *Hillsboro, N. H.*—In the writer's note on sarcopsidite in the May number of this magazine (pages 99-102), the formula-types of the various fluo-phosphates and related minerals were compared, in table 3; it was also noted in discussing that table that a ferrous fluo-phosphate from Stoneham, Maine, has been found to show a composition lying approximately midway between the sarcopsidite and apatite ratios, $R:(F, OH):(PO_4) = 12 : 3 : 7$. The purpose of the present note is to call attention to another apparently intermediate mineral, also from Stoneham, the analysis of which is given (as a peculiar "apatite") in *U. S. Geol. Survey Bull* 591, p. 349. The ratio derivable from this analysis is $11 : 6 : 4$, which is $\frac{2}{3}$ of the way from sarcopsidite to triplite ($7 : 2 : 4 + 2 \times (2 : 1 : 1) = 11 : 6 : 4$). The chief base in this mineral is calcium, so the member of the triplite group concerned is spodosite; but the properties of the Stoneham mineral are so unlike those ascribed to spodosite as to make its distinctness seem at least possible. Studies of the optical properties, with special reference to homogeneity, of minerals appearing to occupy intermediate positions in the series are necessary, however, before their status can be settled.