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An Inquiry into the Farmer's Almanacs  
of the Codex Dresden

La desaparición de Las Pléyades a fines de abril le señalaba a los mayas clásicos la proximidad de la estación de las lluvias, y con ella el comienzo del período de la siembra. Un glifo de los códices mayas que se refiere a este evento es el objeto de la primera parte del presente trabajo. Luego considera pasajes del Códice Dresden que se refieren a la siembra del maíz y el efecto del tiempo sobre el brote de las plantas nuevas. Se propone una lectura de los glifos T 156 = buk y 156: 526, buk, luum, "cavar la tierra (para la siembra)". Luego sigue una breve discusión de los grafemas T 586/602, interpretados por mí como kul/kuul/kol, y sobre las marcas sombreadas con rayas cruzadas en el cuerpo de las serpientes celestes portadoras de la lluvia, incluyendo las "serpientes emplumadas".

La parte central del trabajo examina en detalle los grafemas T 84/85, que desempeñan un papel predominante en los almanaques agrícolas. Yo sugiero una lectura de och, "sustento, alimento, provisión" y, como ampliación, uch de estos afijos, así como una traducción de och.pak, "productos de horticultura, frutos", del frecuente complejo 84: 663. La parte final del trabajo se refiere brevemente a la relación del dios de la lluvia Chac con otras deidades del cielo lluvioso y de la superficie de la tierra, con Itzam Na y el dios K, sugiriendo, además, una serie de nuevas lecturas tales como T 19 = muh, T 121/617a = tz'ac, T 162 = zul, T 529 = muy[al]



y T 575 = muk. El artículo concluye esclareciendo el papel del dios K como guardián de las estirpes reales y de la descendencia humana, identificada con las tiernas plantas del maíz, en general.

In a society completely dependent on the proper growth of the food-plants, like the Maya society, the coming of the rain and with it the start of the planting season naturally was of great importance.

For the Chorti of the Guatemala highlands the social, religious and economic year may be said to begin with the rainy season, usually in the latter part of April or in the early part of May. The official day of its beginning is April 25, St. Mark's Day, which is the first day of the rain-making festival... This date, called the "beginning of the year", or, more commonly, the "beginning of winter", is noted primarily as the beginning of the rainy season, which is by far the most important season for the Indians, and secondarily as the beginning of the year itself" (Wisdom 1940: 462).

As reported by Wisdom, the rain-making ceremony of the Chorti lasted for 8 days, until May 2, in accordance with the classic Maya concept of the young maize god as the patron of the number 8. The Chorti expect the first rain directly after the rain-making ceremony on May 3 (or shortly thereafter), and begin the planting officially on May 4.

The beginning of the agricultural activity and rainy season was signalled to the Chorti by the sun's passing through the zenith at noon in its north-directed movement between April 30 and May 1 (Girard 1969: 162). Announced was the sun's passing the zenith particularly by the heliacal disappearance of the Pleiades (1) at the end of April:

"Besonderes Augenmerk richtet sich auf bestimmte Sternbilder, so zum Beispiel das des Orion... und das Kreuz des Maimonats, vor allem aber auf die Plejaden (more), die durch ihre Stellung am Firmament die Zenitposition der Sonne anzeigen und damit die Regenzeit ankündigen... Laut Isidro Benito Pérez macht das Siebengestirn Ende April auf seinem Wege "kehrt" und folgt der Sonnenbahn; es erscheint bei Tagesanbruch im Osten... Im März sieht man das Siebengestirn am frühen Abend im Westen, aber wenn die Sonne den Zenit überschreitet, geht es dem Astralkönig voran und nimmt den gleichen Kurs... Die Feier zu Ehren der Zenitüberschreitung leitet die Regenzeit ein und legt in der Landwirtschaft eine Tätigkeit von höchster Bedeutung fest: die Saat. Die Chortis erklären die Aufnahmebereitschaft der Erde durch die Tatsache, dass der "Herr" (die Sonne) beim Überschreiten des Zenits aufrecht steht; er geht nicht mehr "schief", sondern "gerade", und das ist die einzige Haltung, in der er die Erde mit Regen fruchtbar machen kann, da er sich jetzt vertikal über ihr befindet" (Girard 1969: 98) (2).

A note by Petrus Martyr (De nuper sub D. Carolo repertis insulis. Basileae 1521: 15), mentioned by Seler in his discussion of the Mexican Toxcatl festival, states that tribes of the Mexican Gulf Coast started their year with the heliacal disappearance of the Pleiades. As calculated by Seler, the Pleiades disappeared in the latitude of Mexico in the year 1519 on May 1 of the Gregorian, on April 21 of the Julian calendar, which was in use at that time. Twenty days later, at May 9 or 10 of the Julian calendar, the day of the Aztec festival Toxcatl, the sun passed through the zenith. The Aztecs - like other Mesoamerican people - divided their year in 18 sections à 20 days, one of them being the period Toxcatl, on the final day of which the Toxcatl festival was celebrated in honor of the god Tezcatlipoca. If Seler's calculation is correct, the beginning of the Toxcatl period fell together with the disappearance of the Pleiades. By referring to Petrus Martyr's note, Seler (1899: 166) suggested that this day may have been also the New Year's day of the Aztecs, the Toxcatl period and festival having been the first section and festival of the Aztec year.

The almanac 59 of the Codex Dresden 31 b - 35 b suggests that the disappearance of the Pleiades also signalled the "beginning of the rainy season" to the classic Maya.

Codex Dresden 32 b (1st col.)

The rain god Chac comes along with raised axe. Text above:

207.671: 126, tzab.chi-ah, "the Pleiades are eaten", or "eating the Pleiades" /  
 166: 528.116, tah?.haab.kin, "owner of the rainy season"? /  
 668.103, Chac, / I.168a: 501, "unique(l) lord (168a) of the sea (501 = naab) or water (501 = ha')" /  
 1.1038b, u.p'a-chi?, "his opening the mouth / his promise [for]" /  
 526: 251 - 663: 23, cab.chol/col - pak.al, "the earth loosened - for sowing / planting (= milpa)" (3).

Codex Dresden 33 b (1st col.) (Fig. 1)

"A Chac, visible from waist up, emerges from jaws of a rattlesnake, whose looped body serves as container for a body of water... These ophidian containers must be the barrels or reservoirs in which Chacs and Tlalocs stored the water they later sprinkled on earth" (Thompson 1972: 99). Text above:

207: 671.126, tzab.chi-ah, "the Pleiades are eaten", or "eating the Pleiades" /  
 91.528: 116, tem.haab.kin, "satisfying rainy season", or "seating of the rainy season" /  
 668.103, Chac / IX.577: 24, bolon.boc-il?, "great fragrance" /  
 1.1038b, u.p'a-chi?, "his promise [for]" /  
 526: 558 - 663: 23, cab.pach - pak.al, "the earth elected - for sowing/planting (= milpa)" (4).

About the same pictures and texts are repeated in the first columns of C. Dresden 34 b and 35 b.

The almanac Codex Madrid 21 d-22 d shows three deities, painted blue, holding rattles in their hands, which - like the Aztec ayochicahuatzli - might be the means for attracting rain-clouds. The glyphs above the first god read (Fig. 2):

207.671, tzab.chi[j], "the Pleiades are eaten", or "eating the Pleiades" /  
116.528: 585a, kin.haab.pix, "season of rain and covering [with plants]" /  
24.1016, il.yum, "it sees the father" /  
162: 506.501, zul?.kan,ha', "the banquet of food (maize) and drink (chocolate)".

The last glyph may refer to special types of food and drink.

Affix 207 represents formally the "tail-rattles" of a rattlesnake. The Yucatec term for these "rattles" and for the Pleiades is tzab. Main sign 671 not only means chij, "deer" (Cholan languages), but can refer also to "eating" or "something eaten", as suggested by the glyph for "west" of the Codices, 671[544]: 116, chi-kin, "[place of] eating the sun", or "where the sun is eaten".

Yucatec (Motul): tzab = las cabrillas, constelación de siete estrellas, y los cascabeles de la víbora; chij, chiah, chib = comer carne; chibil = ser comida carne, huevos y pescado, etc., y ser mordido y picado; chibil kin = eclipsarse el sol; chij = boca, la orilla o ribera de mar, boca de pozo, margen. Quiché: chi = mouth, lips, entrance, edge, rim, border; inside, in. Cakchiquel: chi = boca, puerta, ventana, agujero; causa, razón; en, delante a.

Affixes 90/91 I interpret - following Knorozov (1967) - as tem, "bench, dais; alleviate; satisfy" (Yucatec), graphemes 166 and 577 - following Barthel (1977) - as tah?, "owner; pine-torch", and boc, "olor bueno o malo" (Yucatec), respectively. For T 1038b I consider a reading p'a-chi(j), for T 162 a reading zul. Note Yucatec: p'a.chi(j) = abrir la boca, prometer, profesar o votar por fuerza; sacrificar o dedicar algo a Dios; zul = comida, fiesta, banquete; hacer fiesta o banquete; remojar o empapar. Knorozov (1967: 85) suggested a reading och of T 162; this is the value assigned by me to T 84/85 in this paper.

The foregoing suggests that the glyph 207: 671.126 marks the "start of the rainy season" as the time when "the Pleiades are eaten", when the Pleiades become invisible at the end of April or beginning of May.

The next step in the agricultural cycle, the planting of the maize seed and the influence of the weather on the sprouting of the young plants is well described in almanac 61 of Codex Dresden 38 b - 41 b.

Codex Dresden 38 b (2nd col.) (Fig. 3)

The "white" Chac walks with digging stick in light rain. Text above:

156: 526.181, "it loosens (156.181=buk-z-ic?) the earth (526=cab/luum)" /  
58.668, zac.Chac / 162: 506.501, zul.kan,ha', "banquet of food and drink" /  
59.526: 251 - 663: 23, ti.cab.chol - pak.al, "on the earth loosened - for  
sowing/planting".

Codex Dresden 38 b (3rd col.) (Fig. 3)

The "yellow" Chac walks with digging stick on the milpa-compound 663.526,  
pak.cab/luum, "sown earth". Text above:

588b: 140.181, pax-uen.el.ic, "awakening" /  
59.526: 251 - 663: 23, ti.cab.chol - pak.al, "on the earth loosened - for  
sowing/planting" /  
281.668, kan.Chac / III.567: 130, ox.oc-aan, "very good things have entered"?

For my reading T 156 = buk?, and Barthel's T 588 = pax-uen note Yucatec:  
bukzah luum = mullir la tierra para sembrar en ella; buk luum = tierra mullida o estercolada y preparada para sembrar; paaxal venel = quitarse sueño, despertar.

Codex Madrid 28 b, and a note on graphemes T 586/602

The fate of the maize-seed is subject of the almanac in Codex Madrid 27 b-28 b. The four pictures show Chac seated with digging-stick in front of a maize-kernel (T 506). In pictures 2 (south) and 3 (east) the grain is attacked by a crow and a dog, respectively, in picture 4 (north) it sprouts properly. Text above (4th col.) (Fig. 4):

4.1016, north / 1.136; 586, u.may.kul?, "his divine gift" /  
95.668, ek.Chac, "black Chac" / 156: 526, buk.cab/luum, "loosening the earth (for sowing)".

Graphemes T 586/602 I interpreted previously (Dütting 1972, 1974, 1976) as muc, "hide, bury". Using this reading the glyph 1.136: 586 could denote u.may.muc, "his hidden/buried gift", or "his hiding/burying the gift". I prefer now a reading T 586 and 602 = kul/kuul/kol. These graphemes, formally representing a "piece of textile", may correspond to terms like Quiché/Cakchiquel/Chuj/Tzeltal/Tzotzil q'ul/k'uul, "ropa, tela, manta". Note Yucatec: kul/kuul = divine, adorable; kol, ah = to wound (among other meanings).

The undulating bodies of the rain-sending sky-serpents of Codex Madrid 12-15 are marked by half-circles of cross-hatching, which are either surrounded by droplets or by knob-like extensions. The same cross-hatched half-circle is found in grapheme T 726, the sign of the day Chicchan (Codices). It resembles strongly the lower part of T 604 (ku, "God; bird's nest"), that is T 604 without its "two eggs" on top. The lower part of T 604 is almost identical with grapheme 602.

One of the graphemes of the day Chicchan on the monuments is the serpent head T 764 (translated by Barthel and myself as chan, "serpent"). It is distinguished by a cross-hatched supraorbital area probably denoting ku, "divine".

The scaled body of the "feathered serpent" on the east side of Copan Altar O (Fig. 5) is marked by six large disks with cross-hatched core, interpreted by Seler (1902-1923, I: 846) as "mirrors", this because of their resemblance to the "mirrors" of Tezcatlipoca in the Codex Borgia. I do not regard these disks as mirrors, but rather as jade disks T 511 with infixed T 586. If one understands these jade disks with Thompson (1950: 274) as symbols of "precious water", one can interpret the compound 511[586] together with the number 6 as "emerging (VI=uac) of the divine (586 = ku) precious rain-water (511)". The relationship of T 511, toh, to "rain-water", is given by Quiché toh = rain-storm (the name of the 9th day of the Sacred Cycle, corresponding to Yucatec Muluc). Another symbol of "divine (hidden) water" in the stone inscriptions, but this time of "terrestrial water", is the glyph 501[586], ku.ha' or ku.naab. If one considers only the cross-hatched cores of the 6 disks and their arrangement in three groups of two, one gets the expression ox.ku(l)-ku - and combined with the information inherent in the serpent body - ox.kukul.can/chan, "great feathered serpent" (5).

My reading T 602/586 = ku/kol allows an elegant explanation of Landa's glyph of the 16th month Pax (Tozzer 1941: 164). Attached to the usual Pax glyph 299: 548: 142 is grapheme 586, ku. It may convert main sign 548, tun, which means "drum" in Quiché and Kekchi, into 548-586, tun-ku, the Yucatec term for "drum". The whole glyph 586-299: 548: 142 therefore could denote "beater (299-142 = bax-om/pax-om?) of the Tunkul", or "the Tunkul is beaten".

Note Yucatec: tunkul = mitote, tambor; pax = tambor; baxah = golpear con mazo, martillo o cosa semejante; paxah = tocar instrumento con la mano. A more detailed discussion of graphemes 586/602 is given in Dütting (1978).

The fore-mentioned almanac 61 of C. Dresden 38 b - 41 b illustrates also the effects of torrential rain on the fields.

#### Codex Dresden 39 b (1st col.)

The old goddess O with snake headdress pours rain-water from an inverted jar. Text above:

758.181: 251, uay-ic.chol/col, "poisoning the fields" /  
109.145a, chac.haal, "continuous rain" (name of goddess) /  
267: 544.548, lob? .kin-tun, "malignant drought" /  
544.504: 136, kin.akab.may, "gift during day and night".

Note Yucatec: chac.haal = llover algunos días de continuo.

#### Codex Dresden 39b (3rd col.) (Fig. 6)

Chac sits in torrential rain pouring down from a sky band. Text above:

674v[501].674[501], containers filled with water (501 = ha') /  
59.580v / 109.501: 140, chac.ha'.el, "torrential rain comes forth" /  
172.85: 115v.663.115v, ya.och.pak, "woe to the garden-produce".

Note Yucatec: chacal haa = lluvia o llovía, o aguacero grande con truenos y relámpagos que dura algunos días.

This leads me to a discussion of graphemes T 84/85.

#### Graphemes T 84/85 (Fig. 7)

Grapheme T 84 represents according to Knorozov "an ear of corn in the husk". Several readings of this sign have been proposed: nal (Knorozov 1967: 83), tzuc (Barthel 1969: 36), and tic (Dütting 1976: 46). I am convinced that none of these readings is correct.

The compound 84: 663 of the Codices suggests a more reasonable solution. Originally Thompson (1950: 271) suggested a reading pak, "sow, plant, gardening", of T 663, which he withdrew unfortunately in 1972. I accept the reading T 663 = pak and suggest a translation och.pak of the compound 84: 663, thus assigning to T 84 and T 85 the values och/uch. The rationale for this assignment is found in the Book of Chilam Balam of Tizimin (Roys 1949):

p. 1T: "At that time they take the stored provision of garden stuff (tu kin u ch'a och pak)".

p. 7T: "Then they shall return to their wells (ti tun sutnom tu ch'enil), to their caves (ti yactunil), to get the stored provision of garden stuff (u ch'a pak och)".

I translate och pak simply as "garden-produce" or "crops".

Note the following expressions:

Yucatec (Motul): och = sustento o comida, mantenimiento o provisión de comida; och ixim = provisión o sustento de maíz; och = tlacuache; uchuc = poder;

uchucil = poder, poderío, virtud; uchul = poder hacer algo; uchul, uchi = acontecer, acontecer, suceder y hacerse alguna cosa; uchom/uchuc = sucederá o vendrá (es futuro deste verbo uchul); uchbal = causa o razón; uchben = cosa antigua, vieja de mucha edad y tiempo; uchi = antiguamente. Itza: uchben = viejo. Kekchi (Sedat): och = jilote tierno; ochben/uchben = compañero; /r/uchil = /su/ sustituto. Kekchi (Stoll): och = junger, unreifer Maiskolben (elote, jilote); uchben = Begleiter; uchil = Wesen, die Person. Quiché (Basseta): och = la mazorca de maíz alio nomine hilote; ochol = señalado con señal. Quiché (Basseur): och = elote de maíz tierno sin granos; och = señal; uchah = hablar bien. Quiché (Edmonson): och' = tender, grainless cornear; uch'ah = orate, speak well, treat; uch'an = oration. Cakchiquel: och' = mazorca tierna, elote; ucheej = hacer algún plato, preparar la comida; relatar, narrar; ajuchan = creador. Pocomchi: ohch' = jilote; /r/uch'ihil = /su/ compañero. Ixil: och'e = junger, unreifer Mais; u'che = geschehen, angeordnet werden. Jacalteco: -oche = gustar. Tzotzil/Tzeltal/Chol: 'oč = enter, go in, come in; 'uč = opossum.

In the following I discuss some occurrences of T 84.

(a) Almanac 75 of the Codex Dresden

The "weather" almanac 75 of the C. Dresden consists of 28 columns of three glyphs each, and runs over the sections 73b-72b-71b-73c-72c-71c of the Codex (Thompson 1972: 87). T 84 appears in several columns (T).

T 2, day 4 lk, p. 73b:

136.626.548: 142, "it shall be a Tun (548) of vanishing (136 = may) and misery (626 = coc)" /

172.84: 663, ya.och.pak, "woe to the garden-produce/crops" /

172.526: 251, ya.cab.chol/col, "woe to the loosened earth".

T 19, day 4 Manik, p. 71b:

1022.85, uen.och, "the obligation of the month is the sustenance" /

526: 251 - 663: 23, cab.chol/col - pak.al, "the earth loosened - for sowing/planting (= milpa)".

For Barthel's T 1022 = uen note Yucatec: uen = cosa de mes o de meses; venel = dormir y el sueño.

T 21, day 4 Caban, p. 72c (Fig. 8):

58.503, zac.ik', "light breeze" /

84: 115v.663.115v, och.pak, "[for the] garden-produce/crops" /

648: 25.548: 24, kaz.cay.tun-il, "a Tun of misery and death".



Note Yucatec (Motul): zac ik = viento fresco suave y delicado. The "leaf-like elements" (T 115v), which flank main sign 663 in the och.pak-glyph, are in my opinion appendages of T 84 and not independent graphemes.

T 22, day 4 ik, p. 72 c (Fig. 8):

229.567: 130, ak.oc-aan, "the new/fresh things have entered" /

172.84: 663, ya.och.pak, "the beloved garden-produce/crops" /

62.507: 24, hol.kay-il, "principal [offering] of merchandise".

Thompson's reading 172 = ya allows both a negative and a positive interpretation; note Yucatec: ya = dolor, llaga, mal, fatiga, enfermedad, amor, cosa amada, necesidad, aprecio, cosa grave. Manche Chol: ya = amar; ya cux = dolor, tormento. Kekchi: ra = schmerzhaft; rail = Schmerz; raoc = lieben.

T 25, day 4 Caban, p. 72 c:

84: 19.528, och.mu-cul = och.muc-ul, "the food/sustenance is hidden" /

19.648: 25, muh.kaz.cay, "protected/shaded from evil and death"? /

24.1006b, young maize god.

Grapheme T 19, mu(h), "shadow, shade, protect", I discuss in a forthcoming paper (Dütting 1978). For the haab-sign T 528 I consider a secondary value cu(l) (cf. Kelley 1962).

(b) The name glyph of the Muan bird.

In C. Dresden 10 a (1st col.) the name glyph of the Muan is given as XIII. 84: 561c - 528.62, translated by me as "representative/being/the very old one (84 = uch-) of the 13th heaven - chief (62 = hol) of the rain (528 = haab)". In C. Dresden 47b/47c the Muan is referred to by the glyph XIII.85: 561[648], "evil (648 = kaz) representative (84) of the 13th heaven", in C. Dresden 7 c (2nd col.) by the glyph XIII.561c[731] - 62.528.

(c) Codex Dresden 13c (1st col.) (Fig. 9)

The almanac 31, C. Dresden 13c-14c, treats the conjunction of constellations or planets, symbolized by the coition of animals and deities. The 1st col. of C. Dresden 13c shows "a deer, cloven front hoof raised above head". He "kneels before seated god Y (Zimmermann 1976), a rare hunting god, wearing death symbols. His body is striped black and white; an antler rises from his head. The position surely represents coition..." (Thompson 1972: 45). Text above:

IV.671: 84.521, can.chij.och.uin[ic], "the heavenly deer - the food of men" /

126.565b: 24, ah.lak-il, "[is] the companion of" ? /

VII.146.679b<sup>inv</sup>, god Y / 1.648: 10, u.kaz..., "his doing? evil".

For T 565 b = lak see the Appendix. I do not think Thompson (1972) is right, if he suggests: "The affix 84 almost certainly functions here (as elsewhere) as numerical classifier". Here T 84 links T 671, chij, "deer", and T 521, uin[ic], "men", but not the number IV and T 671. The number IV, can, might stand for caan, "heaven". Can could also mean "strong" or "gift" in Yucatec.

(d) The full name glyph of god G1 is I.84: 785a - 1011 (e.g. Palenque, Cross-Tablet, C16/D16). T 785a resembles formally T 512a, which corresponds to the value cuch, "burden; carry", and perhaps in addition to chuc, "seize, capture". Assuming a tentative value chuc of T 785a, I translate the compound 84: 785a as uch-chuc = uchuc, "poder". The complete title I.84: 785a thus could denote hun.uchuc, "unique, mighty one". God G1, the great creator god to whom the Temple of the Cross, Palenque, was dedicated, is one of the most puzzling deities of the Maya pantheon. He is figured fully on Copan Stela I (cf. Dütting 1978).

(e) In Codex Madrid 7b a demon with legs widely apart (water streams down from his anus) and a skull replacing the head is shown. In his raised right (noh) hand he holds the glyph 84: 506, in his raised left (tz'ic) hand the grapheme 506. The hands may symbolize the action of "giving", tz'a. The whole information conveyed by the right hand is tz'a.noh.och(84).kan(506), "giving (tz'a) plenty of (noh) maize (kan)- provision (och)", or "giving (tz'a) plenty of (noh) precious maize (kan)- food (och)". The left hand conveys the message tz'a.tz'ic.kan(506), "giving (tz'a) violence/misery (tz'ic) to the precious maize (kan)".

(f) The suggested reading och/uch of affixes T 84 and 85 provides again an argument for regarding Yucatec and the Quichéan languages and not the Cholan languages as crucial for the decipherment of the script. Whereas these graphemes may represent formally a "tender, grainless ear of corn", och in the Quichéan languages, most occurrences of them can be explained with the expressions och/uch of Yucatec (and Kekchi). On the contrary, the Cholan och, "to enter", corresponds to Yucatec/Quiché oc, and therefore to grapheme T 765a, b.

In the last part of this paper I touch briefly the relationship of the rain god Chac (a typical deity of the postclassic peasantry) to other deities of the sky and surface of the earth, who were connected likewise with the rain and the growth of the food-plants but played a greater role during the height of the classic Maya culture (as deities of the nobility).

The relationship of Chac to Itzam Na (god D) is subject of Codex Dresden 41a (2nd col.) (Fig. 10). There Chac, clad into a mantle, is seated on the head of Itzam Na, which has the form 1010v-529[687a]. I interpret 529[687a] as

muyal.ich, "cloud face", and the whole glyph as "Itzam Na - cloud face". Little droplets are infixed along the lower border of 529[687a], probably to indicate "drops of rain" (tz'uh). The original nature of Itzam Na as deity of the rainy, cloudy sky is touched here. Grapheme T 529, interpreted by me as muy[al], "cloud; blind [i. e. unborn] offspring", is discussed in Dütting (1978). Like the Chacs Itzam Na sent rain to mankind. "The reason for this overlapping of functions is that Itzam Na was primarily a god of the hierarchy, whereas the Chacs were cherished by the peasants" (Thompson 1970: 210). The zoomorphic form of Itzam Na, the Itzam sky-dragons or double-headed serpents, symbols of the life-giving rainy, cloudy sky, played a great role in Maya religion throughout the classic Maya culture.

In classic times the young maize plants, the elotes, were identified metaphorically with human offspring, and god K (T 1030a-d), the "guardian of the vegetational growth", was in turn the "guardian of human descendants", the "protector of the royal lineages". On his forehead usually grapheme T 121/617a is inscribed which I interpret as tz'ac, "remedy, cure; adjust, complete, preserve; series, steps"; the root tz'ac is part of the Yucatec term tz'acab, "casta, linaje, generación en línea recta por parte de madre", which in turn is part of god K's title Bolon Tz'acab, "Many or Nine Generations" (cf. Ms. Dütting 1978). I withdraw herewith my previous reading T 502 = tz'ac (Dütting 1972: 227). T 502 is a composite grapheme 501[533] which could denote naab. ahau. The head grapheme 1030a of god K is distinguished furthermore by a prefix T 122, kak, "fiery; glorious; angry", or 122-x (122, kak, attached to a type of "cigar", zik). The "burning cigar" 122-x is usually set into the "hollow" (T 121/617a) of god K's forehead. By referring to the Quichéan terms zik, "cigar, cigarette, tobacco", and zik', "shout, invoke, call", I interpret the prefix 122-x or x-122 as zik.kak = zik.ak, "invoking the new fresh things". There is a neatless transition between the standard form of T 122 and a "plant-foliage with added grains", T 122v, in the head grapheme 1030a of god K. This latter grapheme I interpret as ch'iy/ch'ih/k'iy, "growth, grow; abundant", and its combination with the "cigar", x-122v, as zik.ch'iy, "invoking the growth". The root ch'i is part of the Yucatec term ch'ibal, "generación, linaje, descendencia por línea de varón".

God K's head in itself is a "serpent head", reminding at the near homophonic expressions can, "serpent", canan, "to guard" (Yucatec). The whole head grapheme 1030a of god K therefore might convey the information: "guardian (can[an]) of the series of Lords/generations (121 = tz'ac/tz'acab) who invokes the new fresh things (x-122 = zik.kak = zik.ak) or the growth (x-122v = zik.ch'iy)".

The relationship between Chac and god K is the subject of

Codex Dresden 65a (3rd col.) (Fig. 11)

Chac with the mask of god K in his headdress holds in his hands the head of god K. Text above:

1.714, "his grasping fishes/human embryos (for [re]birth)" /  
 1020, god K / 501: 140, naab.el, "emerging from the sea/mothers" –  
 765b: 103, oc-bal, "entrance of" / 668.103, Chac /  
 162: 506.501, zul? .kan,ha', "banquet of food and drink" /  
 84: 544.611, "time (544 = kin) of the sustaining (84 = och) precious young  
 maize-plants (611)".

This text clearly links god K with human descent. The "capturing of fishes from a mythical lake" by god K, and the relationship of these "fishes" to "human embryos" was discussed previously by me (Dütting 1976: 42).

Grapheme 611, the "number 8 in a cartouche", might refer to a ritual name for "precious young maize plants", corresponding in essence to the "gracia" of the modern Yucatec Maya. The compound 84: 611 reminds me at the Sustina Gracia, the "sustaining grace", the maize plant which is our sustenance, mentioned in the Book of Chilam Balam of Chumayel, ch. 11 (Roys 1933: 109). In the same chapter the young maize plants are termed "precious stone of grace" (tun gracia). I would not be surprised if T 611 would denote uaxac.tun, "eighth precious stone [of grace]".

Just like T 663, pak, so also T 611 is sometimes flanked by a "leaf-like element" (T 115v) on either side, if compounded with superfix 84. A good example appears in Codex Dresden 36 b (1st col.), above an "almost naked goddess who squats in water. Her head terminates in that of a heron(?) which has a fish in its beak" (Thompson 1972: 99): 233: 613 / 166? .123: ? .1037, name glyph of goddess(?) / 501.136, naab.may, "gift of the sea/mothers" / 84: 115v.611.115v, "[our] sustenance (84 = och), the precious young maize plants (611)".

Barthel (1974: 187) wrote with respect to the meaning of T 611: "Ich möchte einer Beobachtung Girard's (1969: 172) bei den Chorti den Vorzug geben. Acht Tage nach der Aussaat des Mais bringt die junge Pflanze erstmals ihre charakteristische Form mit zwei flankierenden Blättern hervor. Tatsächlich führt T 611 häufig ein flankierendes Paar von Blättern zu beiden Seiten der zentralen Ziffer Acht, illustriert also auf das genaueste ein ganz frühes Wachstumsstadium des Maises!"

This consideration and the known equivalence of children and young maize plants caused Barthel to propose a tentative reading pal/paal, "muchacho, muchacha, niño, niña" (Yucatec) of T 611. I hesitate to accept a reading och.pal, "sustaining the children", of 84: 611. The values pal/paal of Yucatec are probably covered by affixes T 102/103 in addition to the values bal/baal. The evidence for this comes from Codex Dresden 20c (3rd col.) (Fig. 12), where the young moon goddess Ix Chel carries a youthful lord on her back. Text above:

- 58.533[87]: 103, zac.ahau.te-pal, "pure/bright lord-ruler" /  
 10.528: 87.601, "my? (10) burden (87.601 = [te].cuch), of this year (528 =  
haab)" (6) /  
 58.1026, zac Ix Chel, "pure Ix Chel" (7) /  
 III.567: 130, ox.oc-aan, "very good things have entered"?

As noted by Thompson (1972: 59), "the outline of the Ahau sign [of the first glyph] embodies the te-symbol". Note Yucatec: tepal = reinar, gobernar, mandar reinando; rey, majestad, señorfo, alteza; prosperidad, abundancia, gloria; mucho, muchos.

In the preceding (2nd) column the young maize god, who can substitute metaphorically for a human child, is the burden of the goddess (Fig. 12). Text above:

- 24.1006b, young maize god /  
 10.528: 87.601, "my? burden of this year" /  
 58.1026, pure Ix Chel / 162: 501.506, zul?.ha',kan, "banquet of drink and food".

A special terminus for the young maize plant or ear in classical Yucatec was ah.mun. In the Chumayel, ch. 11, p. 53C (Roys 1933: 112), we read:

"How was the grain of maize born (bal ti zih i coe)? How, indeed, father (bal ua, yume)? Thou knowest (tech a uohel). The tender green [shoot] was born in heaven (zihil u cah ah mun ti caan)".

As first suggested by Barthel, grapheme T 535 (a "leafy ahau") might correspond to the value mun, defined by Roys (1933: 115) as "something tender and unmaturing, before it ripens, like fruit or young boys". The frequent compound 535:23 thus could denote mun.al, "tender child", and in extension mun.nal, "tender ear of corn" (see Dütting 1976: 69 for an example).

Both graphemes, T 535v (= 115v.115v: 533.115v) and T 611, occur in a passage on Copan Stela I (D 1-D 7):

- 10 Ahau 13 Ch'en (8.6.0.0.0); G9; F /  
 713.165: 575?: 126, "finished (713=lah) has the suffering/labor (575: 126 =  
muk-ah?) the adorned one (165 = wiq?)" (8) /  
 1: VI: 28: 548: 142, "his 6th Katun" /  
 671: 87[528].515[528], chij.chuc-cul-te, "the deer is the captive" /  
 513: 526: 126, tzic.cab.ah, "the honorable one has come down" /

74: 184v; 126: 535v; 23, mah.kina[1].ah.mun.[n]al, "the lord, he the tender ear of corn", or "the lord of the tender ears of corn" /

1: 573: 25; 12, u.kex.cal.xul?, "the change of the power comes to an end (12 = xul/xol; Dütting unpubl.)" /

86: 611: 574: 130?, 8 Kin / 1040: 521: 126, 10 Uinal (= DN 10.8) /  
10 Lamat / [16 Pop] / (8.6.0.10.8); G1/F.

In the distance number (DN) relating the two (mythical) dates the number 8 is expressed by the compound 86: 611, "our sustenance (86 = uil?), the precious young maize plants (611)". I extend Barthel's reading T 86 = ui/wi', "root, source, origin; head, highest, top, end", to the expression uil/uiil. Thompson (1970: 282, note 7) regards uiil as "a ritualistic name for maize used almost as we speak of our daily bread". Uil is part of the following Yucatec terms:

Motul: cauil = segunda sementera de pan o segunda cosecha de maiz; kauil yah = pedir limosna.

Pérez: uiil = comida, sementera; uiil, uiiltah/ uii, uiah = comer pan, comer; cauiil = resebrar, segunda sementera.

One name of the maize god may have been Ah Uaxac Yol Kauil, "Eight-Heart-of-Food", which appears in the Book of Chilam Balam of Tizimin, p. 12 T (Roys 1949: 177). Thompson (1970: 289) remarks: "As to the names of the maize god, colonial sources mention a god Kauil and other deities incorporating this word — Ah Uaxac Yol Kauil and Itzam Na Kauil. Uil is an old term for "sustenance" and is used as the equivalent of "our daily bread". Kaa is the root of words signifying "surplus" or "abundance"; Surplus of Our Daily Bread seems a reasonable term for a maize deity (Cauil, "Double Ration of Food", a near homonym, is another of his names) . . . The number eight is the number of the maize god; yol signifies "heart of", so He Eight Heart of Abundance of Our Sustenance is a reasonable title for the maize god".

Previously I extended my reading T 117 = bil to uil/uiil (Dütting 1976: 61). I withdraw this extension in favor of T 86 = ui/uiil. Affix 86 is therefore related to affixes 84/85 not only formally, but also semantically by way of its secondary meaning uil, "food". The young maize god is the patron of the number 8. He was mystically identified with Venus, the patron of the day Lamat, who spends 8 days in the underworld before reappearing as morning star. The completion of the Octaeteris, the combined solar and Venus cycle (8 x 365 = 5 x 584 days), was celebrated by the Aztecs in a ceremony dedicated to the rejuvenation of the maize. In the Aztec Song "chanted every eight years when water tamales were eaten" (Sahagún, 1951-1970, Book 2: 212) the birth of the maize god Cinteotl on the day 1 Xochitl (= 1 Ahau of the Maya), which is also the birth day of the morning star, is referred to as follows:

"The flower of my heart lieth burst open, the lord of the night. She has come, she hath come, our mother, the goddess Tlazolteotl. Cinteotl is born at Tamoanchan, the flowery place, on the day ce xochitl. Cinteotl is born in the place of rain and mist, where the children of men are made, where the jeweled fish are sought." The near equivalence of young maize plants and children, and the initial appearing of the latter as "fishes" (= embryos) is beautifully expressed in these lines.

In the 819-day count clauses of the Tablets of the Cross, Foliated Cross and Sun, Palenque, the glyph 84: 1030d.115v refers to god K. It is preceded by a verbal expression and followed by a world direction glyph; e.g. Sun-Tablet, A14-A15 (Fig. 13):

1022v.88: 125, uen.tacah, "into sleep fell" ? /

84: 1030d.115v: ? , "the sustainer ? (84 = och) and glorious guardian of the lineages/generations (1030d)" (= god K) /

48.1008, "there where one walks around (48 = xan?) in fear (1008 = xib)" (= north).

1022v.88: 125, uen.tac.ah, "into sleep fell" ?

Cross-Tablet, A 14 - A 15 (Fig. 14):

588a: 142.125, pax-uen.om.ah, "awakened is" ? /

84: 1030d.115v: 142? , "the sustainer and glorious guardian of the lineages" (= god K) /

151.74: 575: 140, "there where the esteemed? (151) lord (74 = mah) [the sun] has gained the strength (575 = muk?) to burn (140 = elel)" (= south).

The "region of fear" referred to by the glyph for "north", 48.1008, probably is the "realm of death", thought to lie in the north. Likewise the Aztecs termed the "north" mictlampa, hacia el infierno.

I discuss grapheme 575, translated by me as muk, "suffering, labor; strength", in a forthcoming paper (Dütting 1978). A variant of the glyph for "south" on Copan Stela A(G9) is 134.74: 575: 178, with T 134 corresponding to T 151, and T 178 to T 140 of the Palenque glyph.

The interpretation of the initial glyphs in the two clauses was suggested by Barthel; T 588a (=299: 1022), pax.uen?, finds its explanation in Yucatec paaxal venel, "quitarse sueño, despertar", 1022.88 in tacitac in venel, "estoyme to-do dormiendo" (Motul). Another translation of the glyph 84: 1030d.115v could be "sustenance of god K", but I prefer a translation "god K (1030d) who sustains (84 = och)". T 1030d is flanked on one side by T 115v, a "leaf" (?) hanging down from superfix 84.

On the bones MT-51: A/B of the tomb of Tikal Temple I long-nosed god K's are paddling on a mythical lake, capturing "fishes/human embryos" for birth or rebirth (Fig. 15). They are distinguished by a "spiral eye" (T 19), T 121 (tz'ac)-markings on the body, a T 607a (zih)-ear ornament (9), and by the following symbols set into their headdress, the "long hank of hair" (T 145b, tzatz?) (10): T 86 (wi'), T 19 (muh), and T 552 (kat). It is possible to read these glyphic elements in the order of their occurrence from top to bottom: 552-145b-19-86-607a-121, kat-tzatz? -muh-wi'-zih[nal]-tz'ac[ab], "it asks (kat) the strong one? (tzatz) (= god K) the one who shades/protects (muh) (= the earth goddess), the highest (wi') over the birth (zih[nal]) of series of lords (tz'ac[ab])". If my interpretation of this sequence of glyphic elements is correct, god K was understood as bridegroom (the one who asks) of the earth goddess (referred to by 19 and 86: 607a), their union resulting in the birth of series of lords, the establishment of the royal lineage (11).

## NOTES

- (1) In the tropical South America the Pleiades are closely linked with the seasons, and play a great role in the mythology of the tribes (Lévi-Strauss 1971: 281 f.). In the Amazonas basin they disappear in May with the end of the rain period, and reappear in June with the beginning of the dry season. To the Taulipang further north (3°-5° northern latitude, southern Guayana) the disappearance of the Pleiades indicates the beginning of the rain period, their reappearance the beginning of the dry season: "Die Plejadensind für diese Indianer von der grössten Wichtigkeit zur Bestimmung der Jahreszeiten, der richtigen Zeit für die Pflanzungsarbeiten. Wenn sie am westlichen Horizont verschwinden, beginnt die Regenzeit. Wenn sie im Osten wieder auftauchen, zeigen sie die Trockenheit an. Man kann von einem "Plejadenjahr" sprechen" (Koch-Grünberg 1920: 320).
- (2) The Choles and Kekchi started the sowing of the maize on April 25 according to Sapper (1897: 281). He regards it as possible that this was the beginning of their regular year.
- (3) The reading T 251 = chol/col was suggested by Barthel (1974: 206). For the translation of the "milpa"-glyph he referred to expressions like Acalan-Chontal: chol pakal = milpas. Manche Chol: pac chol = milpa. Yucatec: col = milpa, hacer milpa; colcinah/cholcinah = aflojar algo. In the bee-almanac C. Madrid 103b-106b the texts start with the glyph 1.715:669a, u.pa.kab = u.pak-ab, "he will set up the beehive", followed by either 1.526:558, u.cab.pach?, "his taking in possession the honey", or 1.526:251, u.cab.col, "his robbing the honey"; cf. Yucatec: col = quitar, despojar, apartar.
- (4) Previously I interpreted T 558 as kux (Dütting 1974: 38). I prefer now a reading pach. Note Yucatec: pach, ah = apropiar, tomar posesión, escoger o elegir apropiando assi, escoger lugar; pach = espalda; lo largo de la tela, o de la manta de tributo; pach, pachil = cosa postrera, final o última. The crucial glyph in favor of the new interpretation is the



glyph 62.558[573]: 24, C. Madrid 103b (3rd col.), which addresses the death god as hol.pach-il.kex, "chief of the ultimate change" (cf. Dütting 1978).

Note also C. Madrid 91d (1st col.), where the moon goddess kneels in front of the seated god D on a mat, and the text starts: 563a.558: 586, zi.pach.kul = zip.pach.kul?, "the divine one (ku) ends/takes away (pach) the sin (zip)".

- (5) Kukulcan or Kukulchan was the Maya equivalent of the Mexican god Quetzalcoatl.

Six disks, arranged in three groups of two, decorate also the body of the huge feathered serpent, which forms the vault of heaven on Lintel 3 of Tikal Temple IV. The core of these disks is an empty field of the type T 715, possibly a variant to T 586. They probably convey the same idea as the disks with cross-hatched core on the "feathered serpents" of Copan Altars O and G2.

The vaulted body of the "feathered serpent" on Copan Altar G2 is marked with four disks of the Altar O-type (two of them are grouped together), furthermore with three large cross-hatched triangles and two cross-hatched oval fields. With the number 4 one gets the information "heavenly (IV = can) divine (586) precious water (511)". Like other sky-serpents also the "feathered serpents" were closely connected with rain-water. The old Teotihuacan concept of the "feathered serpent" as symbol of fertility and growth, and of the "fire-serpent" as symbol of drought and death was also known to the Maya.

- (6) I do not agree with Thompson's assignment T 528 = ku(l), "divine", and his 1.528: 87.601, u.ku(l).[te]-cuch, "his divine burden". Besides its primary value haab, "year, rain", T 528 can have the secondary value cu(l), but not ku(l).
- (7) Ix Chel is not a literal translation of the head grapheme T 1026. Infix to T 1026 (as to the head T 1027 of the old goddess O) is affix T 171 (formally a "lock of hair", interpreted by Barthel (1974: 197) as cool, by myself (1976: 130) as choch/chuch. Note Yucatec: cool = desatar; coolol = señora; choch = desatar, aflojar; chuch = chupar, mamar. Literally T 1026 could denote ix cool, "she the lady", or "she the lewd one", or ix chuch, "she who suckles", "she the mother" (cf. Quiché/Ixil: chuch = mother).
- (8) My main reason for T 575 = muk are dates like Palenque, 96-Glyph-Tablet, H7-J1: 7 Manik 0 Pax (9.17.13.0.7) / 713: 575.165, "it ends (713 = lah) the suffering/labor (575 = muk) of the adorned one (165 = wiq?)" / 1.I.28: 548 P, "his first Katun". The suffering/labor of the adorned one (Barthel suggested the reading 165 = wiq), the bearer of the time period, ends when he reaches the lub (resting-place) and drops off his burden. The date in question is a 1 Katun-anniversary. The last two glyphs are usually translated as "completion of first Katun". Of particular interest is the initial date on the 96-Glyph-Tablet (A1-B2): 12 Ahau 8 Ceh (9.11.0.0.0)/756inv. 575, "resting (756inv.) from labor/suffering (575 = muk?)" / 13.XI.28: 548 P, "expiration (13 = zat) of 11 Katuns".

- Note Yucatec: muk, ah = sufrir o padecer sufriendo; permitir, tolerar; muk = 1) el trabajo del trabajador, 2) fuerza o fuerzas. Manche Chol: mucu = sufrir; muquia = sufrimiento; muc = fuerzas.
- (9) With respect to Barthel's T 607a = zih note Yucatec: zihil = nacer o nacimiento; zihaan = cosa nacida. Kekchi: sihac = originar, brotar; sihanc = originarse.
- (10) I interpret T 145a (Codices) as hal, "weave, braid" (Dütting 1974: 38), but consider for T 145b, the "long hank of hair" (worn particularly by the jaguar god of the interior of the earth), the "skein" affix of the Chich'en Itza inscriptions, a reading tzatz. Note Manche Chol: tzatz = fuerte, duro; tzatzbun = ayudar; tzatzlez = fortalecer; tzatzib quin = oriente. Acalan-Chontal: tzatz- = fuerte. Tzotzil: toŋ = 1) wool, hair, fur, 2) strong, hard, tough; ŋaŋ = 1) hair, 2) strength, strong. Yucatec: tzatza = en composición, por fuerza o con importunación; tzotz = pelo, cabello.
- (11) I am grateful to Dr. Thomas S. Barthel for helpful discussions. The hieroglyphs are transcribed with Thompson's (1962) numbering system. Maya words are given throughout this paper with the phonemes of classical Yucatec (c corresponds to k, k to k' of modern phonemic lists). Dictionary entries are cited as given in the particular source. The vocabularies, which are used, are stated in previous papers (Dütting 1972: 245; 1974:2; 1976:42). The readings of particular graphemes listed in Dütting (1974; 1976) should be corrected by the readings given in the present paper. For references to older readings of several graphemes, used in this paper, I refer the reader to those previous lists.

#### Appendix:

##### Graphemes T 565a-c and T 534

Barthel's readings T 251 = chol/col, "milpa, prepare milpa, loosen" (1974: 206) and T 171 = cool, "loosened (lock of hair)" (1974: 197), if true, narrow considerably the possibilities for my readings T 565a, c = col/cool, "release, liberate, save, protect" (terms in many Maya languages), and T 565b = co(y), "lewd, lascivious" (Dütting 1974: 20, 47), despite their apparent merits.

To overcome these difficulties, Barthel proposed a reading T 565a, c = lok, which means "emerge, come out" in the Cholan, "buy; esteemed, beloved" in the Quichéan, and "buy, purchase" in the Maméan languages. In Yucatec we find: lukzah = quitar, apartar, librar, salvar; lukul = apartarse, quitarse, partirse de algún lugar, salir de él, librarse, salvarse. For comparison I give Kekchi: lok' = apreciado, estimado, venerado, adorable, honorable; lok'oninc = estimar, apreciar; lok' = cómpralo; lok'oc = comprar. For T 565b of the Codices Barthel suggested a reading lak, "companion"; cf. Yucatec: lak = compañero, próximo, esposo, marido; amigo o amiga, en mala parte. I accept Barthel's assignments now, and withdraw my readings T 565a, c = col, T 565b = co(y), and T 534 = lok (Dütting 1976: 83).

T 534, the "inverted ahau" grapheme, is not always distinguishable from T 178, el/elel. Sometimes it is shaped as a "tooth", which — according to its occurrences — seems to have been regarded as "something precious". To give an example, the four stucco reliefs on the piers of Palace House D, Palenque, are enframed by glyphic elements which convey the idea "preciousness": Alternating with T 511 (toh)-disks we find T 607a (zih)-shells (pier b), T 173 (nutz'?)-graphemes (pier c), T 16 (yax)-elements (pier d), and T 534-teeth (pier f). A similar idea is suggested by the emblem prefix T 40 = 534: 33, ...pul, "precious/noble offspring".

A reasonable solution for T 534, at least in its "tooth"-form, may lie in the terms cooh/coh.

Yucatec: coh/cooh = cosa preciosa y de estima y rica, cosa cara o lo que es caro; cohil/coohil = la preciosidad, lo caro; coohcinah = estimar, preciar, tener en mucho, engrandecer; co = diente de hombre y de cualquier animal, grano de maíz. Lacandon: coh = diente, grano de maíz. Itza: co'oj = caro; coj = diente, muela. Manche Chol: cho = cosa preciosa, como cosa de inestimable valor; chobben = amar. Chontal: çö = caro. Chorti: çox = good reputation, esteem, value, right, law, love, liking; çoxen = be worthy, right, esteemed, respected; çoxres = esteem, venerate, worship, trust or have confidence in; çoxor = expensive. Kekchi: co = Geliebte, Tochter. Quiché: kohoh/koh = believe, worship, honor, respect; kohil = offering; qo = honorific prefix to the names of important lords, usually combining with what appear to be the names of lineages or sublineages (Popol Vuh 1971: note 7081).

It is unlikely that all occurrences of T 534 are explained by a value coh/cooh. Some of them may be variants of T 178, el, "emerge, come out, depart" (Quichéan and Maméan languages). Perhaps it is not fortuitous that e, the more general Maya term for "tooth", is related phonetically to el. Note Quiché/Pocomchi/Kekchi/Manche Chol/Chontal/Tzeltal/Teco: e = diente; Chorti: eh = tooth; Cakchiquel: ei = muela, diente.

The glyph for "east" of the Codices, 534: 544.116, denotes probably el.kin, "[where] the sun emerges". The Kin variants used in distance numbers for a few days, number.534 or 178: 103 and number.534 or 178: 565a (Fig. 16), are best interpreted as "x times emerging (178/534 = el) of the hidden one (103 = bal)/ of the beloved one (565a = lok)", i. e. of the sun. The glyph 126: 534: 670, on the other hand, is better understood as "the one (126 = ah) who sets in order (670 = tzol) the [lineages of the] esteemed ones (534 = coh/cooh)", i. e. of the lords, or "the one who sets in order (126.670) the precious things (534 = cooh)". The five T 534-graphemes beneath the earth-monster head on the Temple Foliated Cross-Tablet, Palenque, could well represent "grains of maize", co(h) in Yucatec/Itza/Lacandon. The shift from the general Maya term e, "tooth", to Yucatec co(h) may have triggered the arising of a secondary value coh of T 534.

The puma is also termed coh or choh in various Maya languages. Recently Barthel (1977) withdrew his old reading T 757 = coh, "puma; preciousness", in favor of my T 757 = bah/wah, "the first (one)/bread".

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## FIGURES

Fig. 1: Codex Dresden 33b (1st col.).

Fig. 2: Codex Madrid 21d (1st + 2nd col.).

- Fig. 3: Codex Dresden 38b (2nd + 3rd col.).
- Fig. 4: Codex Madrid 28b (4th col.).
- Fig. 5: Copan Altar O (after A.P. Maudslay 1889-1902, I: Plate 85a).
- Fig. 6: Codex Dresden 39b (3rd col.).
- Fig. 7: Graphemes T 84 and T 85.
- Fig. 8: Codex Dresden 72c (cols. 21 and 22 of almanac 75, from right to left).
- Fig. 9: Codex Dresden 13c (1st col.).
- Fig. 10: Codex Dresden 41a (2nd col.).
- Fig. 11: Codex Dresden 65a (3rd col.).
- Fig. 12: Codex Dresden 20c (2nd + 3rd col.).
- Fig. 13: Palenque, Tablet Temple of the Sun, glyphs A14-A15 (drawing by L. Schele).
- Fig. 14: Palenque, Tablet Temple of the Cross, glyphs A14-A15.
- Fig. 15: Tikal Temple I, tomb, bone MT-51: A (left section) (drawing by A. Seuffert).
- Fig. 16: Kin variants for 5, 3, 6 and 4 days, respectively (after Thompson 1950: Fig. 31).



Fig. 1



Fig. 3

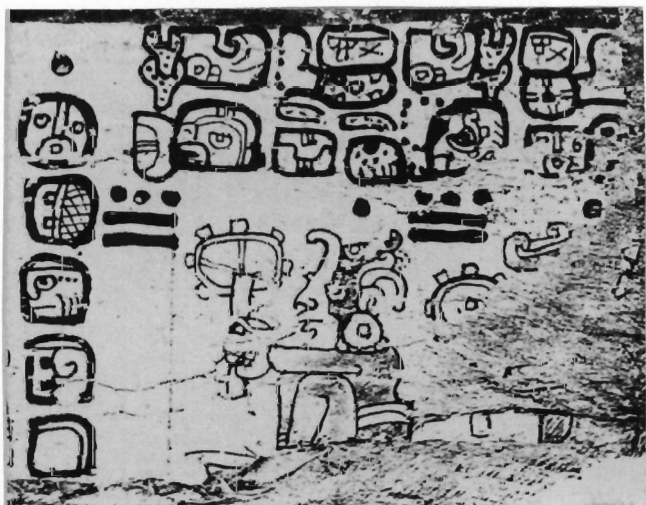


Fig. 2



Fig. 4

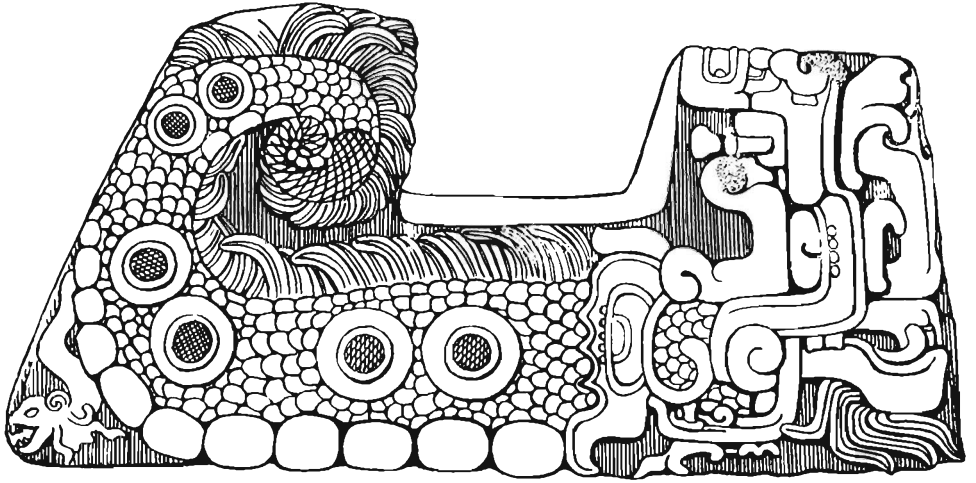


Fig. 5



Fig. 6

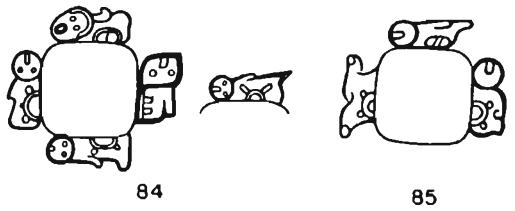


Fig. 7



Fig. 8





Fig. 9



Fig. 10



Fig. 11



Fig. 12

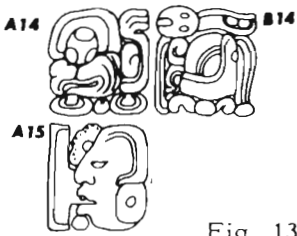


Fig. 13

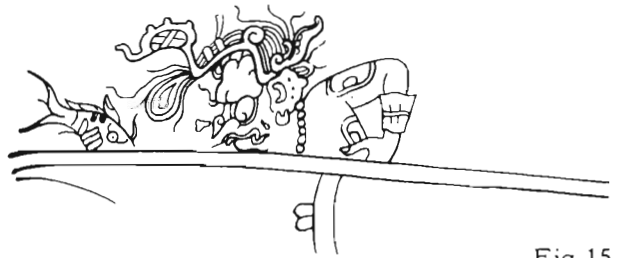


Fig 15



Fig. 14

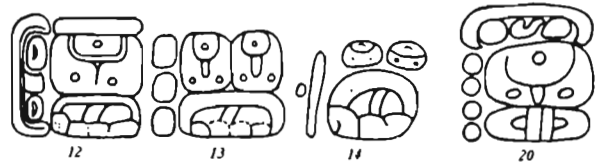


Fig. 16