

Embracing the pitfalls and triumphs in interdisciplinary research

Rhonda McGovern mcgoverh@tcd.ie

What are the Astronomical Diaries?

Series of clay cuneiform tablets containing data pertaining to the movement of stars and planets, meteorological data with sub-daily resolution in places, monthly summaries of market prices for six commodities (barley, dates, mustard, sesame, cress and wool), historical events, and river heights for the Euphrates River.



Scientific endeavour written with precise language for precise observations by scribes who spent their whole lives training for the role.

Key to this data is the fact that it was written in clay and has therefore survived. It is one of the few mediums that benefits from fire, a common way we have lost countless other documents in our history.

It provides us with a unique window into the past, allowing modern scholars to explore the past in great detail.



					Keys an	nd v	ariable names
Volume	Content	F	Published	Кеу	Variable	Key	Variable
Diaries from 652-262 BCE	Systematic daily observation of lunar, planetary and meteorological phenomena alor river heights, economic data for six commodities, and historical information for the years.	ng with monthly ears 652-262	1988	1 2 3	Overcast Haze Cold	29 30 31	Cloudbank Earthquake / Quake [*]
Diaries from 261-165 BCE	Systematic daily observation of lunar, planetary and meteorological phenomena alor river heights, economic data for six commodities, and historical information for the ye BCE.	ng with monthly ears 261-165	1989	4 5	Rain Clouds	32 33	PISAN DIB [*] Mud [*]
Diaries from 164-61 BCF	Systematic daily observation of lunar, planetary and meteorological phenomena alor river heights, economic data for six commodities, and historical information for the year	ng with monthly ears 164-61 BCE	1996	6 7	Fog Corona	34 35	Tornadoes [*] Fall Of Fire [*]
Undated Diaries and Addenda	Additions & corrections to Vols. I-III & undated diaries		2022	8	Rain Shower	36	Locusts [*]
Lunar & Planetary Texts	Monthly observations of lunar and planetary data from 747-10 BCE.		2001	9 10	Wind Mist	37	(shooting star) Box (sun setting / rising in) [*]
Goal Year Texts	Contains "raw materials for the prediction of planetary and lunar phenomena for a gi 1948, p.282).	ven year" (Sachs,	2006	11 12	Rainbow	39 40	Garment of the sky [*]
Almanacs & Normal Star Almanacs	Contains astronomical almanacs from the 3rd to the 1st century BCE.		2014	13	Lightning	41	Historical information*
	<pre>1342 pages of data 671 in English translation 671 in transliteration text</pre> Encompassing 52 unique key variables, including 22 meteorological variables	236,596 rows of data Spread over 40+ columns		15 16 17 18 19 20 21 22 23 24 25 26 27 28	Halo Sirius Phenomenon Eclipse (Lunar / Solar) Meteor / Comet Missing Data Equinox / Solstice Planets & stars Cloudburst Disk Hail Earthshine Dew Storm Famine	43 44 48 49 - 50 51 52 53 54 55 56 98 99	Comments (explanatory text)* Misc. (miscellaneous) COMMODITIES Barley Dates Mustard Cress Sesame Wool Unknown Commodity* Missing Days* No Data*
				* Var	iables added after the pilot	study	y

118	No141		142 B.C.	119
C: BM 34636 (= Sp.	II 119)	SE 170 C:		
Listed as LBAT •409		0.] II II [bv. ´	
Copy (by Pinches): Pl.	193	ľ	[] []	
Photo: Pl. 193		2	[in] the morning, clouds crossed the sky, all day thin clouds []	the sky []
		3'	[the sou]th and east winds blew. Night of the 17th, clouds were i	n the sky. The 17th,
Obv.			clouds [] the sky []	
1′ [] ^r x x ¹ []	4'	[last part of the ni]ght, Venus was 6 cubits below α Arietis. The	19th, clouds were in
2' [ina] še-rì	DIR 'AN' DIB kal ME DIR 'SAL AN' []		the sky; in the afternoon, over[cast]	
3' [UL]Ù u F	UR GIN ^{meš} GE ₆ 17 DIR AN ZA 17 DIR 'AN ¹ [.] 5'	[] a little [rain sho]wer, strong gusty wind. Night of the 22nd, clo	uds crossed the sky,
4' [ina ZAL].	ÁG dele-bat SIG MÚL ár šá SAG LU 6 KÙŠ 19 DI	R AN ZA ina KIN-SIG	strong gusty wind, thun[der]	
'ŠÚ' []		6'	[clou]ds were in the sky, the north wind blew. The 24th, clouds	were in the sky, the
5' [AN UTA]	Η̈́ i-ṣa IM ŠÁR KALAG GE ₆ 22 DIR AN DIB IM Š	ÁR KALAG GÙ [U]	north wind blew; in the afternoon, overcast. Night of the 25th, []
6' [DI]R AN	ZA SI GIN 24 DIR AN ZA SI GIN ina KIN-SIG	ŠÚ GE ₆ 25 ^r x ¹ [] ⁷	[] crossed [] The 26th, clouds crossed the sky, strong gusty north	1 and west storm; at
7' [] 'DIB' 26	5 DIR AN DIB me-hu-ú SI u MAR ŠÁR KALAG	AN-BAR7 AN UT[AH	noon, rain sho[wer]	
]		8'	[around the 28th, Mer]cury's first appearance in the east,	omitted. The 28th,
8' [in 28 G]U	4-UD ina NIM UD-DA IGI DIB 28 DIR AN ZA	AN-BAR7 me-hu-ú SI u	clouds were in the sky; at noon, north and west storm []	ana ana ang ang ang ang ang ang ang ang
MAR []		9	[] I hat month, the equivalent was: barley, in the beginning of the	month, 4 pān 1 sūt,
9' [I]TU BI	KI.LAM še-im ina SAG ITU 4(p) 1(b) EN MURU	B4 ITU 1(g) GUR 'EN'	until the middle of the month, I kur, until the end of the month,	.j
[TIL ITU]		10	the and of the month in Bieses The 6th Very reached Arise [is in Aquarius, until
10' [E]N TIL	ITU ina HUN GENNA ina A AN ina GU EN TIL	ITU ina zibme 6 dele-bat	[] On the 17th on the order of one sitizen of Ningur? who reference	dinated of 1
HUN KUR-á	<i>id</i> []	11	[] of the lamentation singers and the second deprive rite like the	a instead of []
11' [] U ₄ -17-K.	ÁM ina gí-bi šá 1-en ^{lú} DUMU NIBRU ^{ki} šá ú-še-piš	<i>ku-um</i> ^r x ¹ []	[]	e one at the time of
12' [] GALAme	$\overset{s}{} u \overset{tu}{} \mathrm{K} \overset{tu}{} \mathrm{CPAP^{mes}} \overset{r}{} \mathrm{r} \mathrm{x}^{1} - [a] t^{?} te - bi - ib - tu_{4} \mathrm{GIM}$ sá ana t	ar-șa []	[]	
13′ [] ^r x x ^{1meš}		10	[]	
Fra Regal Regal Diar	a Entru			

		da	y wk				E	ra Re	gal Regal	Diary	1.1	Ent	ry						1 1 1 10										
M	BCE Date	nu	m num	month	seas	BY_ID E	Era Y	ear Ye	ar Era	Month	Vol Pa	ige Nur	m Da	y Lunar Six	N Da G	U Phe	nom Type	PhenName	Freq Strength	Uncertainty	Price Rive	r Historical Direction	Notes	Notes2	Notes3	TabletPosition	Intensit	/ decade hund cent	tury
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8 5	142 8/5	/142 1	28 19	May	Spring	488 9	Seleucid 1	70	170		3 1	19	2 1	5 ina še-ri (in the morning)	1		5 Meteorologic	al clouds	1 -	* no date provided, cou	ul -		clouds crossed the sky / DIR AN DIB	crossed	observation	C. Obverse (beg & end broken)		1 140 100	2
8 5	142 8/5	/142 1	28 19	May	Spring	488 9	Seleucid 1	70	170	11	3 1	19 3	2 1	5 ina še-rì (in the morning)	1		5 Meteorologic	al clouds	1 all day thin	* no date provided, cou	al -		all day thin clouds [] the sky / kal ME DIR Si	Nunknown	observation	C. Obverse (beg & end broken)		2 140 100	2
95	142 9/5	142 1	28 19	May	Spring	488 5	Seleucid 1	70	170	11	3 1	19 3	3 1	6		1	19 Missing	missing	1 .	* no date provided, cou	al -		"[]"			C. Obverse (beg & end broken)		140 100	2
9 5	142 9/5	142 1	28 19	May	Spring	488 9	Seleucid 1	70	170	11	3 1	19 3	3 1	6		1	9 Meteorologic	al wind	1 -	* no date provided, cou	ul-	South & Eas	south and east winds blew / ULÚ u KUR GIN"	South & East		C. Obverse (beg & end broken)		1 140 100	2
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Interdisciplinary research – pitfalls & triumphs

Historical Climatology	History	Climate Science
 Methodology Content analysis 	 Source analysis Source criticism 	ReproducibilityTransparency

Potential for the introduction of errors.



Climate-Modellers Historical-Linguistic-Experts Historians Pitfalls Geographers Common Language Palaeoscientists Classicists

Climate-Scientists

Triumphs

- Learning to work in diverse environments
- Accessing specialist knowledge
- Gaining interpersonal skills
- Broadened knowledge of theoretical principles underpinning different disciplines and methodologies

- Effective Communication
- Full understanding of the lexicon involved in each research field
- Time required to find an effective method of working





Rhonda McGovern, mcgoverh@tcd.ie Dr. Francis Ludlow, Dr. Conor Kostick, Dr. Selga Medenieks





Trinity College Dublin

Coláiste na Tríonóide, Baile Átha Cliath The University of Dublin



Trinity Centre for Environmental Humanities