

## Browsing through the Observing Books of Carloforte

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### 1. Introduction

The history of the Carloforte ILS Station is also the history of all the people who have spent part of their life working there. Table 1 shows the names of these people from the beginning of the service till its end.

Table 1. Observers at the Carloforte ILS Station from 1899 to 1978.

Observer	Interval	N.	Observer	Interval	N.
E. Bianchi	Oct 1899 - Dec 1902	4912	M. Castellano	Oct 1941 - Jul 1952	8824
G. Ciscato	Oct 1899 - Sep 1903	6939	A. Zinno	Oct 1948 - Apr 1950	1107
L. Volta	Jan 1903 - Sep 1908	8697	P. Melchior	Feb 1951 - Mar 1951	59
L. Carnera	Nov 1903 - Mar 1909	2802	A. Vergnano	Aug 1951 - Aug 1962	13379
G. Silva	Sep 1905 - Nov 1908	6776	P. Perri	Feb 1952 - Sep 1953	1653
F. Chionio	Oct 1908 - Nov 1910	3043	E. Ficherà	Mar 1952 - Feb 1956	3249
G.A. Favaro	Apr 1909 - Jul 1912	5072	S. Alois	Dec 1954	73
G. Bemporad	May 1911 - Apr 1925	18443	C. Moranzino	Oct 1955 - Jun 1970	20265
V. Fontana	Jul 1912 - Mar 1920	9657	A. Vassallo	Dec 1955 - Aug 1968	1838
M. Frailik	Sep 1920	94	S. Mancuso	Aug 1961 - Oct 1965	4686
G. Cecchini	Dec 1920 - Aug 1927	6573	P. Damele	Aug 1967 - Dec 1968	658
G. Andriassi	Aug 1926 - Dec 1926	166	F. Plaisant	Aug 1968 - Sep 1968	139
E. De Caro	Feb 1927 - Apr 1931	3705	M. Missana	Feb 1969 - Sep 1969	286
G. Peisino	Aug 1927 - Dec 1929	2275	G. Stefanelli	Apr 1969 - Feb 1971	995
P. Vocca	Nov 1929 - Nov 1932	2638	G.F. Luxoro	Sep 1969 - Oct 1960	608
A. Gennaro	Apr 1931 - Mar 1935	3915	E. Proverbio	Dec 1969 - Jun 1970	63
T. Nicolini	Dec 1932 - Sep 1946	4314	N. Borghero	Jul 1970 - Sep 1978	1956
E.L. Martin	Mar 1935 - Mar 1938	2406	G. Rivano	Ott 1970 - Dec 1978	7508
J. Racugno	Lug 1935 - Ago 1935	94	G.C. Cocco	Nov 1970 - Nov 1978	7502
F. Bernard	Jul 1936 - Sep 1938	538	E. Coniglio	Jul 1971	8
G. Righini	Mar 1937 - Aug 1939	1543	S. Uras	Jul 1971 - Aug 1975	748
R. Ruggiero	Aug 1937 - Oct 1937	101	A. Poma	Aug 1971	161
N. Mattana	Nov 1937 - May 1941	2135	G. Muntoni	Aug 1973	13
A. Colacevich	Oct 1939 - May 1940	321	M. Serrau	Jul 1978	54
N. Missana	Jul 1941 - Apr 1943	3427			

Running our eyes through the pages of the Carloforte ILS Station Observing books, we can read, beyond the cold figures that refer to the star transits, a lot of notes and comments that allow us to understand the high degree of humanity, scientific reliability and self-abnegation of the observers. Many of them, after their experience at Carloforte, had continued their activity as researchers in other fields of the Astronomy; just as an example, we may cite Bianchi, Volta, Martin, Righini, that respectively became Directors of the Astronomical Observatories

of Brera, Turin, Trieste, Arcetri. We also may cite Carnera, Cecchini, Nicolini, that played important roles in the Central Bureau of ILS when this one was awarded to Italy. A few on the list were just temporary observers, and their history outside of the Observatory remains unknown for us.

## 2. The adventure begins

The first page of the observing books has been signed by Emilio Bianchi on October 24, 1899. Bianchi was the assistant of Giuseppe Ciscato, first director of the Station. Both of them were borrowed from the Observatory of Padua.

On December 31<sup>st</sup>, 1899, while everybody was celebrating the New Year and the new Century, Ciscato was behind his telescope and wrote (Fig. 1, left): “*Farewell 1899! I wish that the New Year 1900 would give a lot of wonderful clear nights like this one to all observers of the International Latitude Service.*” As we can deduce from the Observing books, Christmas, New Year, Easter are workdays for the observers.

At first, a period of 5 to 10 years was foreseen for the ILS activity. However very soon it became clear that the study of the polar motion would require a permanent organization. The ILS managed to survive the First World War and the dissolution of the International Geodetic Association. At Carloforte, the loss in observations due to the war time difficulties had been limited within 15%, thanks to the personal care of Vittorio Fontana, director, and Giulio Bemporad, his assistant. Fontana died two years later; we may say he died while carrying out his duties.

As a footnote to the pages of March 3, 1920, Bemporad writes (Fig. 1, right): “*Blunders in the micrometer readings of pairs 35, 39 and 41. These observations are the last ones carried out by the late lamented dr. Vittorio Fontana. Already feverish when carrying out them, he kept to his bed during the same night and he died on March 10, at 2 p.m., due to influenza bronchopneumonia.*” We want to remark that this note has been written in red, the colour of blood!

Too much zeal? Maybe. But also the awareness of how important should be a night of observations, even only one.

## 3. Astronomer and poet

À propos of *too much zeal* — 10 years went by, from the just told events — this is the title given by Paolo Vocca to one of a hundred or more comments written in verse on the Observing books from 1930 to 1932, while he was director of the Station (fig. 2, left):

(9 p.m.) “*The sky is clear, / the wind seems to be strong: / let's try and go!*” / (10 p.m.) “*I come to the tower: / the wind is blowing at seventy!! / (My rheumatism is breaking me!) / What have I to do? / Up there the flag is hoisted!! / Maybe tonight it will crack!! / Even with the wind at seventy / I can low it!! / I try to work, / but the wind don't abate! / I take the hint / and ... (11:30 p.m.) I go back home!!*

Another one is titled Melancholy (Fig. 2, a): *Cold, Weariness and Sleep / ganged up tonight! / Is it due to the Spring? / I am seized with an yearning / and a gloomy sadness / is wringing tight my soul. And it's hurting me! / A terrible annoyance / - there is nothing like this! - / is bothering and tormenting me. Why? / Is it due to the Loneliness? / But I got yet accustomed to it! / Maybe this restlessness / is just caused by the aforesaid "ganging"! / Listen to me: will you do a good thing? / Go back home, go to your bed, and don't think any longer of it!*

On the same subject, this time in prose (Fig. 3, a): *It was worth! After a day of work (8 hours of computations!), the sky becoming clear, I set out to the Observatory but I caught the rain in the way. I came back home and resumed my work. The sky became clear again, and I went again up, but I can't do anything! What a weather! Bloody hell!*

Two more small stanzas in Fig. 2, b: *When the weather drive me mad like tonight / it should be better to go to sleep! / But my "care" says: "Stay here!" / I stay, but what do I do? / I am pitiful! / (It's even cold, in addition!) / In spite of the bad weather, even tonight / I carried out good observations. / Few but magnificent observations, carried out / through many clouds and mists! / Did you see never... / such a thing, here?!*

And finally a few lines regarding... the study of the VZT micrometric screw (Fig. 3, b): *As more you get old, as more you do of them: / just your death will make you stop! / Blunders, stupidities, errors as much as you like! / Call them, if you want, "... progressive errors!"*

This *minimum anthology* allows us to imagine both the mood of the writer and the hard work he had to face daily. Many observers, like Vocca, had to experience the loneliness not only by night, while observing, but also during the day, because most of them were young astronomers seconded to Carloforte Station, detached from their habitats and from their families. All of them had to experience the unfavourable weather conditions of Carloforte: cold, strong winds and, specially, a moisture that "... soaks your clothes and gets into your bonds", like some observer wrote on the Observing books.

Finally, we spend a few words to comment on the right side of Fig. 3. Sardinia is, from a seismic point of view, a very still place. This is one of the reasons that Carloforte has been chosen for the ILS Station. But sometime the echo of a distant earthquake makes the highly sensitive levels of the VZT tilt. Here Vocca is the witness of two seismic events that occurred during his observations: one on August 10, 1931, in China (Fig. 3,a) and the other one on July 23, 1930, in Italy (Fig. 3,d).

#### 4. Winds of war

Ten more years went by. Starting from June 10, 1940, Italy become a country at war; up to 1943 observations are normally carried out, but little by little the front is approaching Carloforte. Even on March 6, 1941, N. Mattana (director at that time) writes during the observations: *"Some planes are flying over the Station. A military patrol informed me of the air raid warning status. I am compelled to close (the roof) due to enemy aircraft transit"* (Fig. 4, 1).

On January 20, 1943, a momentary cloudiness breaks the Observations of N. Missana; his attention is drawn upon something else, and writes: “*Starting from sunset, some aeroplanes are buzzing in the outskirts of Carloforte. Are they searching for any prey?*” (Fig. 4, 2). But a few minutes after, the sky becoming clear again, he re-concentrates on his work: “*Clear sky... very weak wind from ESE... full Moon...*”.

Two months later (fig. 4,3) Missana writes: “*Air raid warning at 11:10 p.m.... I clearly hear the roar of the aeroplane engines... Someone is shooting in the Town... Bengal lights in the direction of St. Antioco Island. At 00 a.m., some fires caused by incendiary bombs in St. Antioco...*”

At the beginning of April the situation became even more dramatic; in that occasion Missana wrote (fig 4, 4-5): “*Today, around 1 o'clock p.m., several enemy aeroplanes flew over the town at a low altitude. Many incendiary bombs and other small ones have been dropped on the port and on the vicinities of the observatory: 9 killed and 30 injured, excluding soldiers. The house trembled, all the northern windowpanes, and some other ones, broke. The Observatory has been spared: had it happened by chance or by intention?*”.

After this, observations were stopped until June 26, 1946.

## 5. Conclusions

For brevity's sake we cite only one observer between those of the post war period, Carlo Moranzino. We have no pages of him with either curious or particular notes to show you. We just could show you thousands of plain pages with observation records written by him. More than 20 thousand of observed star pairs, i.e. the eighth part of the whole observations carried out at Carloforte by 50 people in 80 years!

**Acknowledgments.** We wish to thank all the people who observed at Carloforte and in the other ILS Stations: every step, even the smallest one, we have taken in understanding the phenomena causing latitude variation is the fruit of a long and assiduous work made by these observers, under uncomfortable work conditions, and often receiving no adequate acknowledgements.

Barom (ant.) 31 December 1890									
Scopo Date	Bar. mm.	Bar. mm. number - II	Milborn mm.	Level mm.	Barom. mm. II	Barom. mm. III	Barom. mm. IV	Barom. mm. V	Barom. mm. VI
91.1	96	32.044	984	14.37	35.144	29.6			
91.0	95	31.944	983	32.0	31.9	29.6	10		
90.9	95	31.844	982	31.9	31.8	29.6	19		
90.8	95	31.744	981	31.8	31.7	29.6	28		
90.7	94	31.644	980	31.7	30.644	28.3			
90.6	94	31.544	979	31.6	30.544	28.2			
90.5	94	31.444	978	31.5	30.444	28.1			
90.4	94	31.344	977	31.4	30.344	28.0			
90.3	94	31.244	976	31.3	30.244	27.9			
90.2	94	31.144	975	31.2	30.144	27.8			
90.1	94	31.044	974	31.1	30.044	27.7			
90.0	94	30.944	973	31.0	29.944	27.6			
89.9	94	30.844	972	30.9	29.844	27.5			
89.8	94	30.744	971	30.8	29.744	27.4			
89.7	94	30.644	970	30.7	29.644	27.3			
89.6	94	30.544	969	30.6	29.544	27.2			
89.5	94	30.444	968	30.5	29.444	27.1			
89.4	94	30.344	967	30.4	29.344	27.0			
89.3	94	30.244	966	30.3	29.244	26.9			
89.2	94	30.144	965	30.2	29.144	26.8			
89.1	94	30.044	964	30.1	29.044	26.7			
89.0	94	29.944	963	30.0	28.944	26.6			
88.9	94	29.844	962	29.9	28.844	26.5			
88.8	94	29.744	961	29.8	28.744	26.4			
88.7	94	29.644	960	29.7	28.644	26.3			
88.6	94	29.544	959	29.6	28.544	26.2			
88.5	94	29.444	958	29.5	28.444	26.1			
88.4	94	29.344	957	29.4	28.344	26.0			
88.3	94	29.244	956	29.3	28.244	25.9			
88.2	94	29.144	955	29.2	28.144	25.8			
88.1	94	29.044	954	29.1	28.044	25.7			
88.0	94	28.944	953	29.0	27.944	25.6			
87.9	94	28.844	952	28.9	27.844	25.5			
87.8	94	28.744	951	28.8	27.744	25.4			
87.7	94	28.644	950	28.7	27.644	25.3			
87.6	94	28.544	949	28.6	27.544	25.2			
87.5	94	28.444	948	28.5	27.444	25.1			
87.4	94	28.344	947	28.4	27.344	25.0			
87.3	94	28.244	946	28.3	27.244	24.9			
87.2	94	28.144	945	28.2	27.144	24.8			
87.1	94	28.044	944	28.1	27.044	24.7			
87.0	94	27.944	943	28.0	26.944	24.6			
86.9	94	27.844	942	27.9	26.844	24.5			
86.8	94	27.744	941	27.8	26.744	24.4			
86.7	94	27.644	940	27.7	26.644	24.3			
86.6	94	27.544	939	27.6	26.544	24.2			
86.5	94	27.444	938	27.5	26.444	24.1			
86.4	94	27.344	937	27.4	26.344	24.0			
86.3	94	27.244	936	27.3	26.244	23.9			
86.2	94	27.144	935	27.2	26.144	23.8			
86.1	94	27.044	934	27.1	26.044	23.7			
86.0	94	26.944	933	27.0	25.944	23.6			
85.9	94	26.844	932	26.9	25.844	23.5			
85.8	94	26.744	931	26.8	25.744	23.4			
85.7	94	26.644	930	26.7	25.644	23.3			
85.6	94	26.544	929	26.6	25.544	23.2			
85.5	94	26.444	928	26.5	25.444	23.1			
85.4	94	26.344	927	26.4	25.344	23.0			
85.3	94	26.244	926	26.3	25.244	22.9			
85.2	94	26.144	925	26.2	25.144	22.8			
85.1	94	26.044	924	26.1	25.044	22.7			
85.0	94	25.944	923	26.0	24.944	22.6			
84.9	94	25.844	922	25.9	24.844	22.5			
84.8	94	25.744	921	25.8	24.744	22.4			
84.7	94	25.644	920	25.7	24.644	22.3			
84.6	94	25.544	919	25.6	24.544	22.2			
84.5	94	25.444	918	25.5	24.444	22.1			
84.4	94	25.344	917	25.4	24.344	22.0			
84.3	94	25.244	916	25.3	24.244	21.9			
84.2	94	25.144	915	25.2	24.144	21.8			
84.1	94	25.044	914	25.1	24.044	21.7			
84.0	94	24.944	913	25.0	23.944	21.6			
83.9	94	24.844	912	24.9	23.844	21.5			
83.8	94	24.744	911	24.8	23.744	21.4			
83.7	94	24.644	910	24.7	23.644	21.3			
83.6	94	24.544	909	24.6	23.544	21.2			
83.5	94	24.444	908	24.5	23.444	21.1			
83.4	94	24.344	907	24.4	23.344	21.0			
83.3	94	24.244	906	24.3	23.244	20.9			
83.2	94	24.144	905	24.2	23.144	20.8			
83.1	94	24.044	904	24.1	23.044	20.7			
83.0	94	23.944	903	24.0	22.944	20.6			
82.9	94	23.844	902	23.9	22.844	20.5			
82.8	94	23.744	901	23.8	22.744	20.4			
82.7	94	23.644	900	23.7	22.644	20.3			
82.6	94	23.544	899	23.6	22.544	20.2			
82.5	94	23.444	898	23.5	22.444	20.1			
82.4	94	23.344	897	23.4	22.344	20.0			
82.3	94	23.244	896	23.3	22.244	19.9			
82.2	94	23.144	895	23.2	22.144	19.8			
82.1	94	23.044	894	23.1	22.044	19.7			
82.0	94	22.944	893	23.0	21.944	19.6			
81.9	94	22.844	892	22.9	21.844	19.5			
81.8	94	22.744	891	22.8	21.744	19.4			
81.7	94	22.644	890	22.7	21.644	19.3			
81.6	94	22.544	889	22.6	21.544	19.2			
81.5	94	22.444	888	22.5	21.444	19.1			
81.4	94	22.344	887	22.4	21.344	19.0			
81.3	94	22.244	886	22.3	21.244	18.9			
81.2	94	22.144	885	22.2	21.144	18.8			
81.1	94	22.044	884	22.1	21.044	18.7			
81.0	94	21.944	883	22.0	20.944	18.6			
80.9	94	21.844	882	21.9	20.844	18.5			
80.8	94	21.744	881	21.8	20.744	18.4			
80.7	94	21.644	880	21.7	20.644	18.3			
80.6	94	21.544	879	21.6	20.544	18.2			
80.5	94	21.444	878	21.5	20.444	18.1			
80.4	94	21.344	877	21.4	20.344	18.0			
80.3	94	21.244	876	21.3	20.244	17.9			
80.2	94	21.144	875	21.2	20.144	17.8			
80.1	94	21.044	874	21.1	20.044	17.7			
80.0	94	20.944	873	21.0	19.944	17.6			
79.9	94	20.844	872	20.9	19.844	17.5			
79.8	94	20.744	871	20.8	19.744	17.4			
79.7	94	20.644	870	20.7	19.644	17.3			
79.6	94	20.544	869	20.6	19.544	17.2			
79.5	94	20.444	868	20.5	19.444	17.1			
79.4	94	20.344	867	20.4	19.344	17.0			
79.3	94	20.244	866	20.3	19.244	16.9			
79.2	94	20.144	865	20.2	19.144	16.8			
79.1	94	20.044	864	20.1	19.044	16.7			
79.0	94	19.944	863	20.0	18.944	16.6			
78.9	94	19.844	862	19.9	18.844	16.5			
78.8	94	19.744	861	19.8	18.744	16.4			
78.7	94	19.644	860	19.7	18.644	16.3			
78.6	94	19.544	859	19.6	18.544	16.2			
78.5	94	19.444	858	19.5	18.444	16.1			
78.4	94	19.344	857	19.4	18.344	16.0			
78.3	94	19.244	856	19.3	18.244	15.9			
78.2	94	19.144	855	19.2	18.144	15.8			
78.1	94	19.044	854	19.1	18.044	15.7			
78.0	94	18.944	853	19.0	17.944	15.6			
77.9	94	18.844	852	18.9	17.844	15.5			
77.8	94	18.744	851	18.8	17.744	15.4			
77.7	94	18.644	850	18.7	17.644	15.3			
77.6	94	18.544	849	18.6	17.544	15.2			
77.5	94	18.444	848	18.5	17.444	15.1			
77.4	94	18.344	847	18.4	17.344	15.0			
77.3	94	18.244	846	18.3	17.244	14.9			
77.2	94	18.144	845	18.2	17.144	14.8			
77.1	94	18.044	844	18.1	17.044	14.7			
77.0	94	17.944	843	18.0	16.944	14.6			
76.9	94	17.844	842	17.9	16.844	14.5			
76.8	94	17.744	841	17.8	16.744	14.4			
76.7	94	17.644	840	17.7	16.644	14.3			
76.6	94	17.544	839	17.6	16.544	14.2			

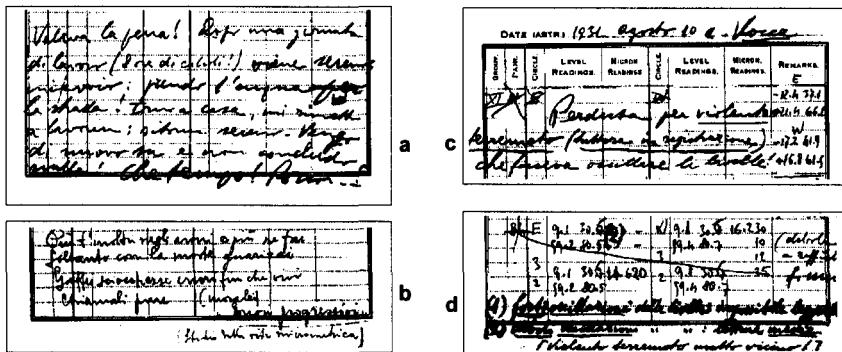


Figure 3. Minimum Anthology of Paolo Vocca (Part II).

Figure 4. Observers' notes on wartime 1941/43.