Therapeutic Efficiency of *Acoustic Paradise Lost* (APL)

Mineo Moritani (Department of English)
Mirei Moritani (Assistant)

〔Abstract〕

We have, by now, have made experiments on the psychological response of *APL* with the help of about 5000 persons. All we can say from these experiments is that an the therapeutic efficiency of *APL* cannot be denied. The basic notion is: "God's inspired divine poetry has healing power. John Milton's poetry is divinely inspired and moreover, he made hundred percent use of musicality of words he used. That is why we made *Acoustic Paradise Lost*. As the most precise analysis of the therapeutic efficiency of *APL*, we made experiment using cocolyzer," the result of which shows the validity.

Key words　John Milton, *Acoustic Paradise Lost*, therapeutic efficiency

(A)　1. Our Basic Notion : God's inspired divine poetry has healing power

　　　2. What is *APL* ? — An Outline of *Acoustic Paradise Lost*

(B)　3. The samples of the text of *Paradise Lost* Book One

　　　4. The samples of the taped voice from the above lines

　　　5. The digitals of the sound pressure (dB) of the above voice

　　　6. The sample of the sound-pressure-change form of Book One

　　　7. The samples of the electronic signal sound of the above sound pressure

　　　8. The samples of the computer music based on the digitals of the sound pressure

　　　9. The samples of the featuring sound waves from Book One

　　　10. The response of Japanese and American students to the *APL*

　　　11. A result of the experiment using "cocolyzer"

(C)　12.　Conclusion

(A)

1,　Our Basic Notion : God's inspired divine poetry has healing power

Our basic notion of the efficiency of the music lies in the following opinion of Marsilio Ficino, "De Triplici Vita : " as explained by D. P. Walker :

"He [Ficino] uses and discusses music chiefly as a means to medical, magical or theurgic ends ; Which three ultimately converge to one : that of purifying body, spiritus and soul, for a life of contemplation which shall achieve knowledge of, and union with, God. This is the final aim of his new Orphic to the lyre, of musical tretise embedded in his commentary on the Timaeus, and of the detailed prescriptions for the therapeutic and astrological use of music in the "De Triplici Vita," which we are now to examine.[2] "

2.　What is *APL* ? — An Outline of *Acoustic Paradise Lost*[3]

(B)

3.　The samples of the text of *Paradise Lost Book One*

OF Mans First Disobediense, and the Fruit
Of that Forbidd'n Tree, Whose mortal tast
Brought Death into the World, and all our woe,
With loss of Eden, till one greater Man
Restore us, and regain the blissful Seat,
Sing Heav'nly Muse, that on the secret top
Of Oreb, or of Sinai, didst inspire
That Shepherd, who first taught the chosen Seed,
In the Beginning how the Heav'ns and Earth
Rose out of Chaos : Or if Sion Hill
Delight thee more, and Siloa's Brook that flowd
Fast by the Oracle of God ; I thence
Invoke thy aid to my adventrous Song,
That with no middle flight intends to soar
Above th' Aonian Mount ; while it persues
Things unattempted yet in Prose or Rime.
And chiefly Thou O Spirit, that dost Preferr
Before all Temples th'upright heart and pure,
Instruct me, for Thou know'st ; Thou from the first

Wast present, and with mighty wings outspred
Dove-like satst brooding on the vast Abyss
And mad'st it Pregnant : What in mee is dark
Illumin, what is low raise and support ;
That to the highth of this great Argument
I may assert Eternal Providence,
And justifie the wayes of God to men.

＊26 lines

(For the rest of the text, please see *the special issue No.2*)

4. The samples of the taped voice from the above lines :

☞♬Please listen to the taped voice narrated by the sound blaster pro 16.

5. The digitals of the sound pressure(dB)of the above voices :

73.61.75.73.71.76.73.69.73.81.76.75.65.79.70.77.76.66.76.60.74.69.75.76.79.72.75.77.79.83.77.75.72.
72.78.78.77.78.76.75.69.60.80.62.75.79.71.77.75.78.74.50.79.80.75.80.79.74.76.80.75.77.77.74.71.71.
75.60.78.69.72.

<div align="center">(71 data)</div>

☞For the full data of the sound pressure (dB)of Book One, see the *special issue No.3.*

6. The sample of the sound-pressure-change form of Book One

<div align="center">

**Analyses of dB change patterns in *Paradise Lost;*
*their Correlations with the Poetic Contents***

</div>

[Book I] lines=798; data=2174;1 datum=0.367 line;1 line=2.72 data;
hour=36.8

☞　For full samples, please see *the special issue No.4*

7. The samples of the electronic signal sound of the above sound pressure

☞♫ Please listen to the samples of the electronic signal sound (the sound is limited in quantity).
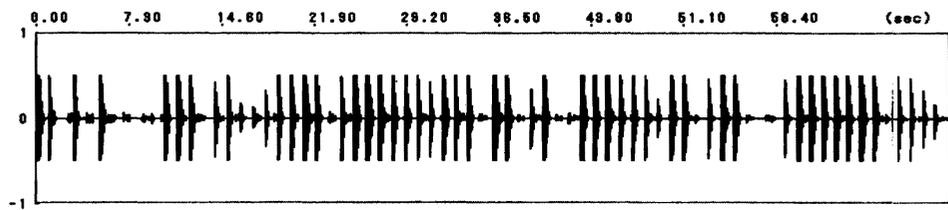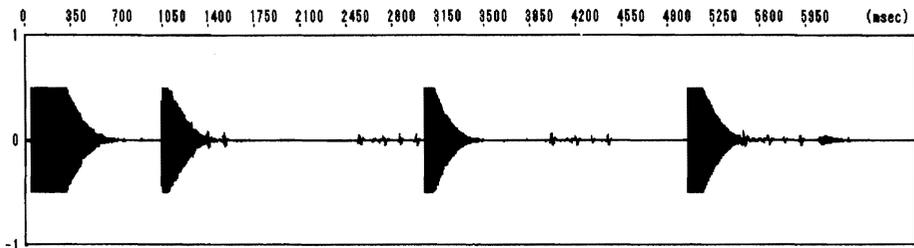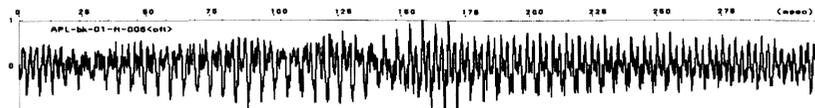
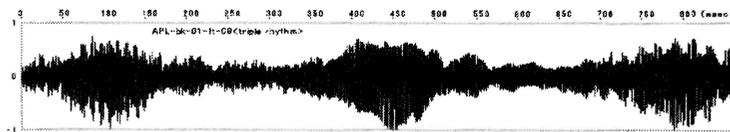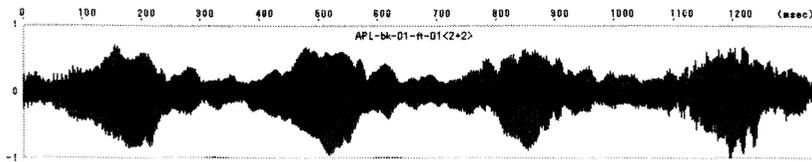### 8. The samples of the computer music based on the digitals of the sound pressure

☞♫ Please listen to the samples of the computer music.
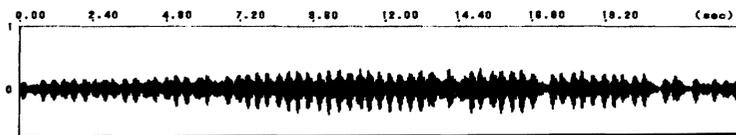
9. The samples of the featuring sound waves from Book One

☞♫ Please listen to the samples of the computer music.

These featuring tones, like the others, help make *APL* full of variety of emotinal potentiality.

10. The responses of Japanese and American students to the *APL* (an experiment done during 1999-2001 both in Japan and USA)

At first, it seemed to me like digging out the gold sands in the river beds to discover the possibility of therapeutic possibility in this new concept of *APL*. This difficulty you can surmise in the low rate of the positive appreciation of it both in Japanese students and American students. Nevertheless, I could find gold sands even though in a small quantity at the first step. This is the thinest line of hope with which I could continue my study in this field. By now, I am sure of its positive therapeutic efficiency through one-year experiment with my students. At first when it was strange to them, only a small part of the class could appreciate it, but when they are familar with it, as I found out, re-markable psychological developments are recognized in them. They knew that *APL* helped them in making their imagination activated and emotion appeased an they found that *APL* would set their state of mind fit for the day's study.

I would like to omit the detailed descriptions of this experiment for this occasion, you can have a generalized notion of the experiment in the following tables.

General Evaluation　頻度表〔一般評価〕

		Frequency	Percent	Volid Percent	Cumulative Percent
Vand	0	1	.4	.4	.4
	3	1	.4	.4	.6
	5	1	.4	.4	1.2
	10	8	3.1	3.1	4.2
	15	4	1.5	1.5	5.8
	20	13	5.0	5.0	10.8
	25	5	1.8	1.8	12.7
	28	1	.4	.4	13.1
	30	14	5.4	5.4	18.5
	35	4	1.5	1.5	20.1
	36	1	.4	.4	20.5
	38	1	.4	.4	20.8
	40	24	0.2	8.3	30.1
	42	1	.4	.4	30.3
	45	20	7.7	7.7	30.2
	46	1	.4	.4	30.8
	47	1	.4	.4	30.0
	48	2	.5	.5	30.8
	50	7	2.7	2.7	42.5
	51	1	.4	.4	42.9
	55	3	2.7	2.7	45.0
	56	1	.4	.4	45.9
	60	35	13.5	13.5	50.5
	62	1	.4	.4	50.8
	64	1	.4	.4	60.2
	65	15	5.8	5.8	66.0
	67	1	.4	.4	66.4
	68	12	4.8	4.8	71.0
	70	24	0.2	0.3	80.3
	72	1	.4	.4	80.7
	73	1	.4	.4	81.1
	75	22	0.5	0.5	88.5
	76	1	.4	.4	90.0
	78	4	1.5	1.5	90.5
	80	16	6.0	6.0	96.3
	83	2	.8	.4	90.2
	85	2	.8	.4	100.0
	Total	250	90.5	100.0	
Missing	System	1	.4		
Total		280	100.0		

Attitude　頻度表〔態度〕

		Frequency	Percent	Volid Percent	Cumulative Percent
Vand	-50	1	.4	.4	.4
	-30	2	.8	.8	1.2
	-20	1	.4	.4	1.6
	-10	10	3.8	3.9	5.4
	-5	7	2.7	2.7	8.1
	-1	1	.4	.4	8.5
	0	1	.4	.4	8.9
	1	1	.4	.4	9.3
	5	2	.8	.8	10.0
	10	3	5.2	1.2	11.2
	15	1	.4	.4	11.0
	20	8	2.3	2.3	13.9
	25	3	1.2	1.2	15.1
	28	1	.4	.4	15.4
	30	11	4.2	4.2	19.7
	38	1	.4	.4	20.1
	40	15	5.8	5.6	25.7
	45	8	3.5	3.5	29.3
	48	2	.8	.8	30.1
	50	18	8.9	6.9	37.1
	52	1	.4	.4	37.5
	55	14	5.4	5.4	42.8
	58	2	.8	.8	43.6
	60	20	10.8	10.8	54.4
	63	1	.4	.4	54.8
	65	8	3.5	3.5	58.3
	68	2	.8	.8	59.1
	69	1	.4	.4	59.5
	70	44	16.9	17.0	76.4
	71	2	.8	.8	77.2
	73	1	.4	.4	77.6
	75	12	4.8	4.8	82.2
	76	4	1.5	1.5	83.8
	78	3	1.2	1.2	84.3
	80	25	9.6	1.7	84.6
	81	2	.8	.8	85.4
	82	2	.8	.8	86.1
	84	1	.4	.4	86.5
	85	2	.8	.8	87.3
	87	1	.4	.4	87.7
	88	1	.4	.4	98.1
	89	1	.4	.4	98.5
	90	2	.8	.8	99.2
	94	1	.4	.4	99.6
	95	1	.4	.4	100.0
	Total	259	99.6	100.0	
Missing	System	1	.4		
Total		260	100.0		

(Table 1)

Grasp　頻度表〔内容把握〕

		Frequency	Percent	Volid Percent	Cumulative Percent
Vand	0	4	1.5	1.5	1.5
	1	1	1.4	.4	1.9
	3	1	.4	.4	2.3
	5	17	0.5	0.8	6.9
	6	1	.4	.4	9.3
	10	18	7.3	7.3	16.6
	15	1	.4	.4	17.0
	20	9	3.5	3.5	20.5
	28	1	.4	.4	20.9
	30	10	6.9	6.9	27.8
	35	4	1.5	1.5	29.3
	34	1	.4	.4	29.7
	40	30	11.5	11.5	41.3
	43	1	.4	.4	41.9
	45	7	2.7	2.7	44.4
	46	1	.4	.4	44.8
	48	1	.4	.4	45.2
	50	7	2.7	2.7	47.9
	55	7	2.7	2.7	50.8
	60	36	13.8	13.8	64.5
	65	11	4.2	4.2	68.7
	68	4	1.5	1.5	70.3
	70	21	11.0	12.0	82.2
	72	1	.4	.4	82.5
	73	1	.4	.4	83.0
	75	14	5.4	5.4	88.4
	76	1	.4	.4	88.6
	77	2	.8	.8	89.6
	78	1	.4	.4	90.0
	79	2	.8	.8	90.7
	80	14	5.4	5.4	96.1
	81	1	.4	.4	96.5
	85	3	1.2	1.2	97.7
	87	1	.4	.4	98.1
	88	1	.4	.4	98.5
	90	4	1.5	1.5	100.0
	Total	259	99.6	99.6	
Missing	System	1	.4		
Total		260	100.0		

Mood Change　頻度表〔気分変化〕

		Frequency	Percent	Volid Percent	Cumulative Percent
Vand	-30	2	.8	1.3	1.3
	-10	10	3.8	6.5	7.8
	-5	10	3.8	6.5	14.4
	-3	2	.8	1.3	15.7
	-2	1	.4	1.7	16.3
	-1	8	3.1	5.2	21.6
	0	10	3.8	6.5	28.1
	1	1	.4	.7	28.8
	2	1	.4	.7	29.4
	10	1	.4	.7	31.1
	20	1	.4	.7	30.7
	30	5	1.9	3.3	34.0
	40	3	1.2	2.0	35.9
	45	1	1.4	.7	38.6
	50	3	1.2	2.0	38.8
	55	1	.4	.7	39.2
	58	2	.8	1.3	40.5
	60	12	4.6	7.6	48.4
	65	2	.8	1.3	49.7
	68	2	.8	1.3	51.0
	70	26	10.0	17.0	68.0
	72	1	.4	.7	68.6
	75	8	3.1	5.2	73.9
	78	2	.8	1.3	75.2
	80	26	10.0	17.0	92.2
	90	6	2.3	3.9	96.1
	100	6	2.3	3.9	100.0
	Total	153	58.6	100.0	
Missing	999	106	40.8		
	System	1	.4		
	Total	107	41.2		
Total		280	100.0		

(Table 2)

＝Japanese Students＝

Correlations

		Attitude	General Evaluation	Grasp	Mood Change
Attitude	Pearson Correlation Slg. (2-tailed) N				
General Evaluation	Pearson Correlation Slg. (2-tailed) N	.698** .000 190			
Grasp	Pearson Correlation Slg. (2-tailed) N	.682** .000 190	.575** .000 124		
Mood Change	Pearson Correlation Slg. (2-tailed) N	.613** .000 124	.489** .000 124	.342** .000 124	

**. Correlation is significant at the 0.01 level (2-tailed)

(Table 3)

＝American Students＝

Correlations

		Attitude	General Evaluation	Grasp	Mood Change
Attitude	Pearson Correlation Slg. (2-tailed) N				
General Evaluation	Pearson Correlation Slg. (2-tailed) N	.277* .021 69			
Grasp	Pearson Correlation Slg. (2-tailed) N	.539** .000 69	.322** .007 69		
Mood Change	Pearson Correlation Slg. (2-tailed) N	.495** .006 29	.434* .019 29	.146 .451 29	

*. Correlation is significant at the 0.05 level (2-tailed)
**. Correlation is significant at the 0.01 level (2-tailed)

(Table 4)

Correlations

		Attitude	General Evaluation	Grasp	Mood Change
Attitude	Pearson Correlation Slg. (2-tailed) N				
General Evaluation	Pearson Correlation Slg. (2-tailed) N	.572** .000 259			
Grasp	Pearson Correlation Slg. (2-tailed) N	.632** .000 259	.519** .000 259		
Mood Change	Pearson Correlation Slg. (2-tailed) N	.592** .000 153	.327** .000 153	.311** .000 153	

**. Correlation is significant at the 0.01 level (2-tailed)

(Table 5)

Our main concern is the mood change, for the same is related with therapeutic efficiency. From the tables 4, 5, 6, we can know that the mood change is of the different dimension from those of general evaluation (intellect) and grasp (imagination and sensitivity). Attitude has the strongest affinity with the other dependent variants. Accordingly, we can conlude that as far as his attitude is good, *APL* can do good to the soul of man.

Next we will enumetate some items that interest our intention. The first group is those of the Japanese students: 1. Strange feeling, 2. Rest of soul, 3. Graceful, 4. Mystery, 5. The feeling of being inhaled, 6. Cosmic, 7. Trance, 8. Solemnity, 9. Another dimension, 10. Another world, 11. Recollection, 12. Arouzing, 13. Tranquilizer, 14. Transcendence of limit, 15. Elavation of soul, 16. Room of nothingness, 17. Language of the primordial race, 18. Prayer to God, 19. Endless continuance, 20. Transparency. The second group is those of the American students: 1. Dancing, 2. Appeasement of soul, 3. Happiness, 4. Mystery, 5. Cosmic mystery, 6. Why people live here?, 7. Gothic feeling, 8. Sunny warmth, 9. Fate, 10. Very graceful, 11. Church, 12. Pastor, 13. Organ, 14. Transe, 15. Reverence, 16. Holy Scriptures, 17. Meditation, 18. Longing, 19. Unbelievably large existence, 20. Spiritual change. This means no racial differences in their responce to *APL*. These items narrate the positive therapeutic effiency of *APL*.

Another experiment that we did for a year shows the possibility of therapeutic efficiency. They listened to it every week for fifteen minutes before the classes for a year. The salvational value that I estimated from the sentences they wrote immediately after listening to it are as follows:

| The total number of the students	The total value	The average value	The number of the value between 80 and 100
546	34736	63.62	259

This survey shows that 47% of the total students appreciate the positive therapeutic effeciency of *APL*. So when we use *APL* for the purpose of healing the sick emotion, once it proves to be of no good, we must stop using it. Only, after a long period of getting accustomed to *APL*, they come to appreciate one.
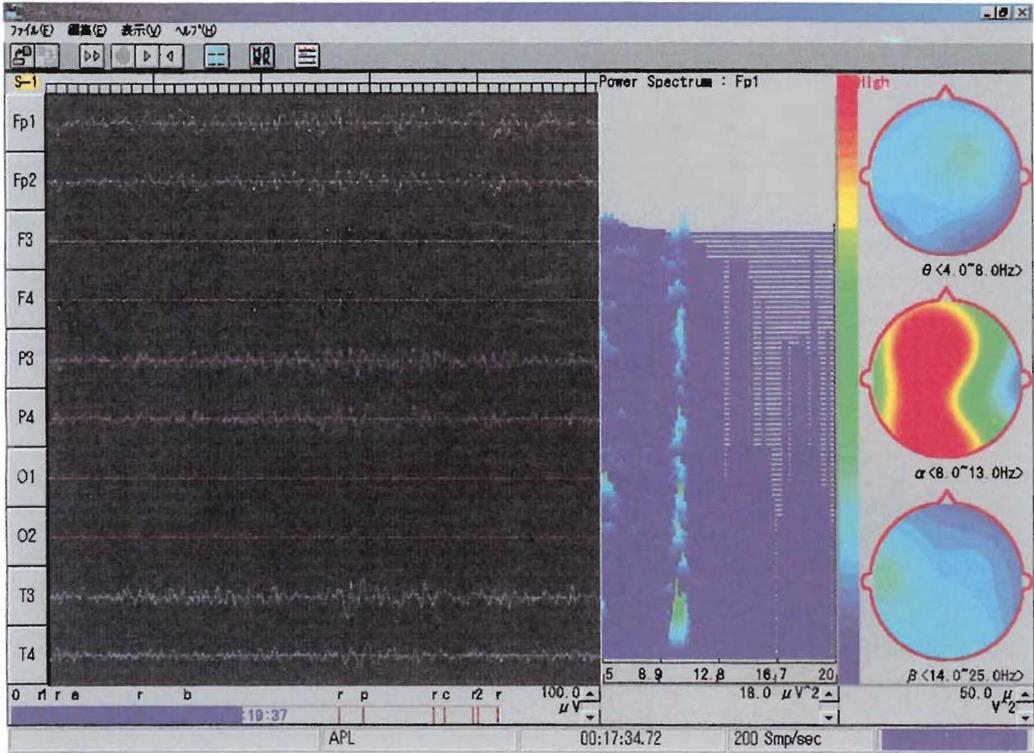

11. A result of the experiment using "cocolyzer" [4]

"*Cocolyzer*" is an emotion spectrum analyzer, a device for measuring emotion in human brain invented by Dr. Toshimitu Mushakoji, Professor Emritus Tokyo Institute of Technology.

The experimental helper is Miss Mirei Moritani
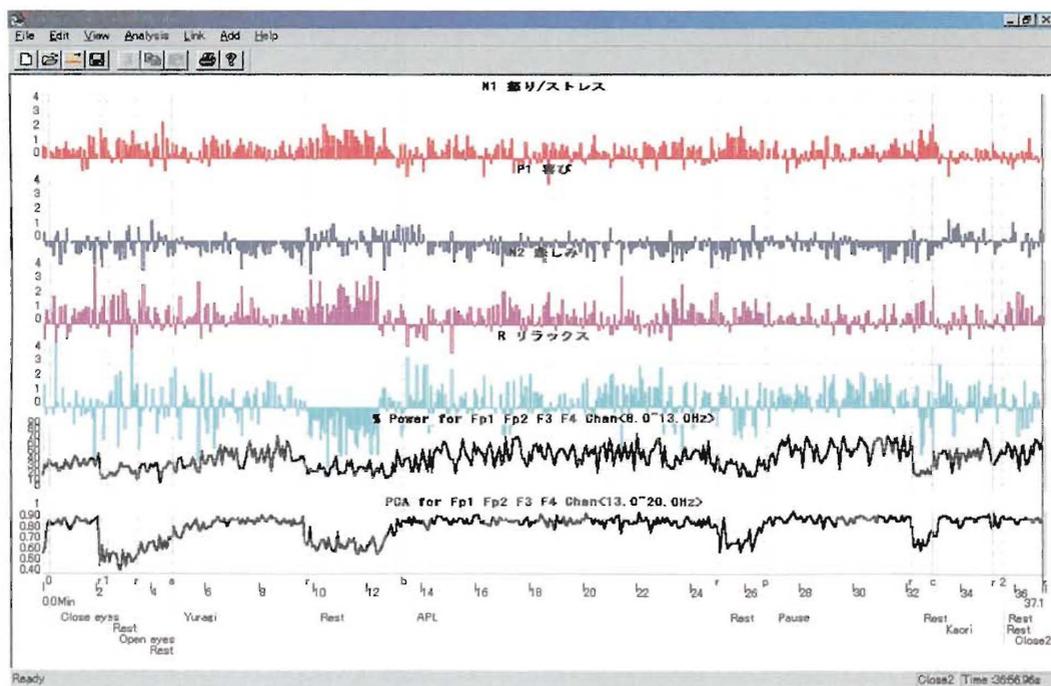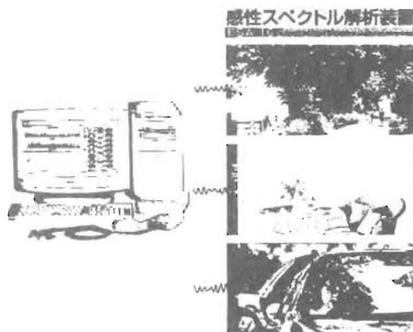
Emotion N1 怒り/ストレス　P1 喜び　N2 悲しみ　R リラックス　　% Power for Fp1 Fp2 F3 F4
Chan＜8.0〜13.0Hz＞PCA for Fp1 Fp2 F3 F4 Chan＜13.0〜20.0Hz

	N1	P1	N2	R		
Close eyes		0.42	-0.36	0.58	0.04	38.66	0.88
Open eyes		0.64	-0.32	0.69	0.71	28.15	0.54
Close2	0.04	0.08	0.66	0.20	55.99	0.91 (Standard level)
Yuragi	0.51	-0.57	0.56	0.26	45.19	0.87
APL	**0.33**	**-0.40**	**0.50**	**0.43**	50.26	0.88
Kaori	0.17	0.16	0.16	0.39	50.02	0.89
Piano	0.30	-0.37	0.30	0.80	57.77	0.91
Rest	0.88	-0.22	0.91	-0.72	31.17	0.70

N1 : Anger or Stress,　P1 : Joy,　N2 : Sorow,　R : Relaxation

(C) Conclusion

APL has a significant relaxing efficiency. The average number is 0.43 next to 0.80 by the piano music of her own creation. Her piano music is exceptionally relaxational one because she kept her most precious remembrance of her life of suffering. A further investigation is necessaary for **APL** to be useful as the healing devise of alternative medicine.

Notes

(1) This Paper was originally read at The First International Congress of Complementary Medicine of the Third Millenium, March 29-31, 2001 Felix Bath, Romania.
(2) W. P. Walker, "Ficino's Spiritus and Music," **Annals Musicologiques**, Moyen-Age et Rennaissance, Tome I (Societe de Musique d' Autrefois, 70, Rue de Bac. Paris, 1953), p.132.
(3) See **The Acoustic Paradise Lost** (The Zion Press, 1998).
(4) "Cocolyzer" の実験検証に当り、デモをして下さった**エヌエ回路設計ブロック社**および当社の**荒賀裕氏**に心から感謝をいたします。

（もりたに　みねお　英語英米文学科）

（もりたに　みれい）